

त्रिपुरा विश्वविद्यालय
TRIPURA UNIVERSITY

(केन्द्रीय विश्वविद्यालय/ A Central University)
सूर्यमणिनगर, अगरतला / Suryamaninagar, Agartala
त्रिपुरा(प.)/Tripura (W.),पिन/ PIN-799022, भारत/ INDIA



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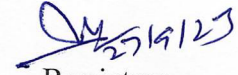
CERTIFICATE

1.2 - Academic Flexibility

1.2.1 - Number of new courses introduced of the total number of courses across all programs offered during the year 2023-24.

1.2.1 - How many new courses were introduced during the year 2023-24.

The relevant and supporting documents for the above mentioned criteria are attached in annexures.


Registrar

(Dr. Deepak Sharma)
Registrar
Tripura University



Department of Chemical and Polymer Engineering
Tripura University
(A Central University)
Suryamaninagar, Agartala
Tripura (w), Pin: 79022, India
Phone: +91-9954246498
Email: hod_cpen@tripurauniv.in

Proceedings of the 4th BPGS Meeting of Chemical & Polymer Engg. Department held on 12th Jan 2023, 12:30 PM in the Dean's Office (Faculty of Science), Tripura University

Members Present:

1. Dr. Sachin Bhaladhare, Asst. Professor, Chemical & Polymer Engg. Dept., TU - Member
2. Dr. P.K.P. Rupa, Asso. Professor, Material Science & Engg. Dept., TU - Member
3. Prof. B.K. Datta, Dean, Faculty of Science, TU - Chairman

At the outset, Prof. B.K. Datta, Chairman, BPGS, welcomed the members for attending the 4th BPGS meeting. Thereafter, the Board took up the following agenda for discussion.

Agendum – 01: Confirm proceedings of 3rd BPGS meeting held on 30/11/2021

Confirmed

Agendum- 02: Ph.D. Related

Agendum-02a: Research Advisory Committee (RAC) approval of Mr. Harjeet Nath (Part time Ph.D. scholar enrolled in 27/06/2021 with AIN: P20PCE0001)

The BPGS committee has approved the RAC for Part-time Ph.D. scholar Mr. Harjeet Nath

Agendum-02b: Research Advisory Committee (RAC) approval of Miss. Sulagna Bhattacharjee (Full time Ph.D. scholar enrolled in 18/4/22 with AIN: 218889001)

Deferred to next meeting.

Agendum- 03: Inclusion of MOOC courses from SWAYAM portal in the M.Tech. Syllabus

The BPGS committee has accepted and approved inclusion of 2 elective courses from MOOC (Swayam Portal) with provision for credit transfer in its M.Tech. syllabus as per the details below

- a) Membrane Science & Technology course (CP 1008E of 4 credits) offered in M.Tech. 2nd Semester
- b) Research Methodology Fundamentals course (CP1103E of 4 Credits) offered in M.Tech. 3rd Semester

It was further resolved that that Research Methodology Fundamentals course with Code CP1103E be included as an Elective Subject (4 Credits) in the 3rd Semester M.Tech. syllabus in place of CP1103C (4 Credits) offered earlier. Thus this course can now be taken through MOOC with credit transfer provision as per Agendum-03b. The above changes will be in effect for the current new 1st semester M.Tech Batch admitted in the session 2022-23 and onwards.

Agendum- 04: Offering of Skill 3 course from the department itself for its students

The BPGS committee has approved the proposal of offering Computer Skill 3 course of 4 credits for 2nd Semester M.Tech with paper name Computer Skill III (Aspen Plus Simulation Software) and Paper Code: CP1009C following the suggestions of the BPGS members mentioned in Proceedings of the 2nd BPGS meetings held on 26/03/2021. The above changes will be in effect for the current new 1st semester M.Tech Batch admitted in the session 2022-23 and onwards.

The meetings ended with vote of thanks to chair.



Prof. B.K. Datta

Dean Science and Chairman BPGS

Chairman
B.P.G. Studies
Department of chemical and polymer engg
Tripura University

Prof. B.K. Datta
संकायाध्यक्ष / Dean
विज्ञान संकाय
Faculty of Science
त्रिपुरा विश्वविद्यालय
Tripura University

Curriculum Structure

M.Tech. in Chemical & Polymer Engineering

Total Core (C) Credits: 60, Total Elective (E) Credits: 20, Total Credits: 80

M.Tech. First (1 st) Semester – 600 Marks (C credits: 16; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 901C	Advanced Reaction Engineering	4	0	0	4	100		C: Core Course
CP 902C	Polymer Science and Technology	4	0	0	4	100		
CP 903C	Heat and Mass Transfer	4	0	0	4	100		
CP 906E	Rubber Science and Technology	4	0	0	4	100		E: Elective Course (students to select anyone from the list)
CP 907E	Colloids and Interface Science	4	0	0	4	100		
CP 909E	Polymer Composites	4	0	0	4	100		
Elective from another department	-	4	0	0	4	100		Mandatory course for M.Tech. students
Practical Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks		Remarks
CP 904C	Polymer Lab	0	0	2	2	50		
CP 905C	Reaction Engineering Lab	0	0	2	2	50		
SUB TOTAL		20	0	4	24	600		
M.Tech. Second (2 nd) Semester – 600 Marks (C credits: 16; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1002C	Polymer Characterization and Testing	4	0	0	4	100		C: Core Course
CP 1004C	Fluidization Engineering	4	0	0	4	100		
CP 1004E	Polymer Processing	4	0	0	4	100		E: Elective Course (students to select any two from the list)
CP 1007E	Advanced Fluid Flow Rheology	4	0	0	4	100		
CP 1008E	Membrane Science and Technology	4	0	0	4	100	Yes	
CP 1009C	Computer Skill-III (Aspen Plus Simulation)	4	0	0	4	100		Computer Skill –III (Mandatory course offered by department)

Practical Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1003C	Polymer Characterization Lab	0	0	2	2	50		
CP 1005C	Fluidization Engineering lab	0	0	2	2	50		
SUB TOTAL		20	0	4	24	600		
M.Tech. Third (3rd) Semester – 400 Marks (C credits: 12; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1103E	Research Methodology Fundamentals	4	0	0	4	100	Yes	
CP 1104C	Project Part-I	0	0	12	12	300	Semester project progress report (150 marks), seminar, and Viva-Voce (150 marks)	
SUB TOTAL		4	0	12	16	400		
M.Tech. Fourth (4th) Semester – 400 Marks (C credits: 16; E credits: 0)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1203C	Project Part-II	0	0	16	16	400	M.Tech. final thesis (200 marks), Comprehensive seminar and Viva-Voce (200 marks)	
SUB TOTAL		0	0	16	16	400		
AGGREGATE (Entire Duration of M.Tech.)		44	0	36	80	2000		

* L - Lecture hrs/week T - Tutorial hrs/week P-Project/Practical/Lab/All other non-classroom academic activities, etc. hrs/week C - Credit Points of the Course E- Elective Points of the Course

CP1009C Computer Skill III

Aspen Plus Simulation Software

Introduction to Aspen Plus

Aspen-An introduction, Getting started with Aspen Plus, Simulation of flash drums, computation of Bubble point and dew point temperatures, Txy and Pxy diagrams of a binary mixture

Simulation of Reactor Models

Regular models, R-Stoic Model, RCSTR Model, RPlug Model

Simulation of Distillation Models

Built in distillation models, DSTWU model, RadFrac Model

Simulation in Chemical Plants, New models in Aspen Plus research

Recommended Books:

1. Amiya K. J., Process Simulation and Control Using Aspen, Second Edition, Prentice Hall India, 2012
2. Bequette, B., Process Dynamics: Modeling, Analysis and Simulation, Second Edition, Prentice Hall, 2003

CP1003E Research Methodology Fundamentals

Experimental in chemical and polymer research

Laboratory formalities, instruments handling and maintenance, laboratory safety, and troubleshooting; Materials Science research: development of a research idea, methods to perform experiments, data collections, errors in data collections, interpretation of results, and related discussions, reproducibility of data.

Preparation of research reports/manuscript

Authorship, graphical abstract, introduction, experimental/computational methods, results and discussion, conclusions.

Few important sections in Chemical and Polymer research

Acknowledgment, conflict of interest, copyright, ethics of research and publications; Patents; Post-publication: citation of an article, the researcher's profile, communication with scientist, and collaboration.

Recommended Books:

1. C.R. Kothari, Research Methodology Methods and Techniques, 2/e, Vishwa Prakashan, 2006.
2. Donald H. McBurney, Research Methods, 5th Edition, Thomson Learning, ISBN:81-315-0047-0, 2006.



No.F.TU/REG/AC/26/2024

Date: 31.07.2024

Minutes of the Twenty-sixth Meeting of the Academic Council of Tripura University held on 31st July, 2024 at 2:00 P.M. in the Council Hall, Administrative Building, Tripura University.

Members present:

- | | |
|---|------------------------|
| 1. Prof. Ganga Prasad Prasain,
Vice-Chancellor, Tripura University | - Ex-officio Chairman |
| 2. Prof. Badal Kumar Datta, Dean,
Faculty of Science, Tripura University | -Member |
| 3. Prof. Chinmoy Roy, Dean,
Faculty of Commerce, Law,
Management & Information Science, Tripura University | -Member |
| 4. Prof. Swanirbhar Majumder, Head,
Department of Information Technology, Tripura University | -Member |
| 5. Prof. Ashes Gupta,
Deptment of English, Tripura University | -Member |
| 6. Prof. Y.V. Krishnaiah, Department of Geography &
Disaster Management, Tripura University | -Member |
| 7. Dr. Gautam Chakma, Associate Professor
Department of Political Science, Tripura University | -Member |
| 8. Dr. Dilip Rana, Assistant Professor,
Department of Economics, Tripura University | -Member |
| 9. Dr. Fr. Benny K. John, Principal,
Holy Cross College, Agartala, Tripura | -Member |
| 10. Dr. Dibakar Deb, Principal,
Techno College of Engineering, Agartala, Tripura | -Member |
| 11. Dr. Deepak Sharma
Registrar, Tripura University | - Ex-officio Secretary |

At the outset, Prof. Ganga Prasad Prasain, Hon'ble Vice-Chancellor & Chairman welcomed all the members. Thereafter, Dr. Deepak Sharma, Registrar & Secretary presented the agenda for discussion:

- Item No.01/26/2024: To confirm the Minutes of the following Academic Council of Tripura University:
- Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 - Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 - Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Minutes of the above meetings of the Academic Council were read out and approved unanimously.

- Item No.02/26/2024: To report the Action Taken on the decisions of the Minutes of the following meetings of the Academic Council of Tripura University:
- Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 - Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 - Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Action taken on the decisions of the above meetings of the Academic Council were reported and approved unanimously.

Handwritten signature and date:
31/7/24



Item No. 03/26/2024: i. To place for approval Minutes of the following meetings of the College Development Council (CDC):

- (a) Minutes of the 6th CDC meeting held on 27.06.2022.
- (b) Minutes of the 7th CDC meeting held on 03.02.2023.
- (c) Minutes of the 8th CDC meeting held on 05.07.2023.
- (d) Minutes of the Emergent Meeting of the CDC held on 11.07.2024.

Resolution: Minutes of the above meetings of the College Development Council were read out and approved unanimously.

ii. To place for approval the minutes of following IQAC meetings:-

- (i) 39th Meeting (Emergent Meeting) held on 08.03.2022.
- (ii) 40th Meeting held on 18.07.2022.
- (iii) 41st Meeting held on 16.12.2022.
- (iv) 42nd Meeting held on 27.07.2023.
- (v) 43rd Meeting held on 24.08.2023.

Resolution: Minutes of the above meetings of the IQAC were read and approved unanimously.

iii. To place for approval the Minutes of Meetings of the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS)/ Board of Faculty of Studies (BFS).

Resolution: Minutes of the various meetings of the BUGS/BPGS/BFS were discussed and approved unanimously.

Item No.04/26/2024: To place the draft of rules & regulations in connection with Ph. D. Programme of Tripura University.

Resolution: Rules & regulations governing Ph. D. Programme of Tripura University were approved after due deliberation.

Item No.05/26/2024: To deliberate on the implementation of UGC Guidelines for pursuing two academic programmes simultaneously.

Resolution: It was resolved to adopt the UGC Guidelines for pursuing two academic programmes simultaneously. However, in this academic year 2024-25, due to constraints of resources students will be allowed to pursue one regular and one online course simultaneously.

Item No. 06/26/2024: To consider the structure of the courses /revised syllabi of various programmes in accordance with the NEP 2020 as approved by the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS).

Resolution: It was resolved to approve the structure of the courses/revised syllabi of various programmes as approved by the BUGS/BPGS.

Also it was observed that the existing Regulations Governing Under Graduate Program in accordance with National Education Policy-2020 is also applicable to professional courses like BCA and B.Sc in IT w.e.f. the academic session 2023-24. Accordingly necessary amendment be made in the same.


31/7/23



Item No. 07/26/2024: To place for approval the proposal to start a Certificate Course in Digital Media Marketing as proposed by Dattopant Thengadi Employment Generation Resource Centre (DTEGRC), Tripura University.

Resolution: Approved

Item No.08/26/2024: To place for approval the proposal to start a Skill Development course by the Department of Physics, Tripura University in collaboration with the George Telegraph Training Institute, Kolkata.

Resolution: Approved

Item No. 09/26/2024: To consider the following proposals submitted by Head, Department of Physical Education, Tripura University for opening of new departments in Tripura University:
(a) Proposal for opening of Department of Yoga.
(b) Proposal for opening of Department of Sports Management and Tourism.

Resolution: It was resolved to approve the proposals for starting new programmes in Tripura University:

1. Proposal for opening of Department of Yoga.
2. Proposal for opening of Department of Sports Management and Tourism.
3. Rubber Technology
4. Bamboo Cultivation & Resource Utilisation
5. DT Skill Development Centre

Item No. 10/26/2024: To place for approval the matter regarding ratification of two Open Elective Courses titled "Introduction to Indic Studies I & II" in the curriculum of the Deptt of English, T.U. from the academic session 2024-2025 duly approved in the meeting of the the Board of Post Graduate Studies (BPGS) held on 20.02.2024.

Resolution: The matter was approved and the Council proposed to start a Centre for Indian Knowledge System (IKS) in Tripura University.

Item No.11/26/2024: (i) To place for approval the Minutes of the meeting of the Committee constituted to examine the fee structures of Bachelor of Dental Surgery (BDS), MBBS, MD/MS and various Professional Courses of affiliated colleges/institutes to Tripura University held on 29.04.2024.

Resolution: Approved.

(ii) To consider the proposal for revision of fee structure of programmes, remuneration of Teachers/Experts of Tripura University as per decision of the Finance Committee of Tripura University in its 35th Meeting held on 15th March, 2023 (vide Agenda No:FC:35:2023:05)

Resolution: Approved

Item No. 12/26/2024: To institute an award 'Nilkarabi Gold Medal' as proposed by Dr. Nilmoni Deb Burman and Mrs. Karabi Deb Burman for the best student each in BA and MA in Bengali.

Resolution: Approved



Item No.13/26/2024: To place for approval the revised P.G Hostel Prospectus 2024 of Tripura University.

Resolution: Approved

Item No.14/26/2024: To place for approval the Academic Calendar 2023-24 & 2024-25 of the University.

Resolution: Approved

Item No. 15/26/2024: To place the matter regarding nominations of 05 (five) persons to the Board of the Faculty of Studies (BFS) by the Academic Council who have specialized and expertised in the subjects (of the faculty) and who are not employees of the University or of any of its affiliated or recognized institutions' in accordance with Ordinance A-2 (Under Section 31(1) (j) of the Tripura University Act, 2006 read with Clause (3) of Statute 15).

Resolution: The Hon'ble Vice-Chancellor, Tripura University has been authorized to nominate 05 (five) persons to each Board of the Faculty of Studies (BFS).

Item No.16/26/2024: To report the following for approval:

(i) Renaming of 'Bachelor in Medical Laboratory Technology (Operation Theatre) (BMTOT)' to 'Bachelor in Operation Theatre Technology' in TIPS, Hapania.

Resolution: Approved

(ii) The incorporation of Middle-Level Health Provider (MLHP) Topics into existing Curriculum of Community Health Nursing of B.Sc. Nursing Syllabus (4th Year) & Post Basic B.Sc. Nursing Syllabus (2nd Year) as per recommendation of Indian Nursing Council (INC).

Resolution: Approved

(iii) The inclusion of MCA & M.Sc. Computer Science in the eligibility qualification for admission into M.Tech programme in Data Science from the academic session 2023-24 (Ref: Letter of Principal, TIT, Narsingarh, Tripura West addressed to DHE, Govt. of Tripura dt. 20th April, 2023).

Resolution: Approved

(iv) The change of nomenclature of the course "Construction Automation" to "Civil Engineering (Construction Technology)" with effect from the academic session 2022-23.

Resolution: It was resolved to assign Dr. Dibakar Deb, Principal, Techno College of Engineering, Agartala to coordinate with Controller of Examinations (i/c), Tripura University to do the necessary.

(v) The Provisional Rules and Regulations Governing Integrated Master Degree Programme (IMD) in Tripura University in accordance with NIP-2020 w.e.f. the academic session 2023-2024.

Resolution: Approved and resolved that IMD (Common) & IMD (Commerce) be incorporated.


31/7/23



(vi) The grant of provisional affiliation to Tripura Santiniketan Medical College, Madhuban, Ranirkhamar, West Tripura for the academic year 2024-2025 as recommended by the College Development Council in its Emergent Meeting held on 11.07.2024.

Resolution: Approved

(vii) The publication of results of all UG/PG/other courses of Tripura University w.e.f. 17.12.2021 to 31.12.2023.

Resolution: Approved

Supplementary Agenda

Item No.17/26/2024: To consider adoption of New NMC (National Medical Commission) guidelines for MD/MS Examinations Notification dated: 29th December, 2023.

Resolution: Approved

Item No.16/26/2024: To approve the list of name of all Medal holders/recipients (UG/PG /Ph. D/ other degree holders) for conferment of degree/certificate for the Year 2023 in the 13th Convocation to be held on 08.09.2024.

Resolution: The Academic Council was informed that 13th Convocation of the University is scheduled to be held on 08.09.2024 and the list of names of all candidates for conferment of Ph. D degrees and medals for various UG/PG courses for the academic year 2023 as received from the Controller of Examinations, Tripura University was placed and approved.

Also, it was discussed and resolved to confer medal(s) to meritorious candidates of MD/MS of each department/subject for the academic year 2023.

Miscellaneous discussion:

1. Admission Committee was suggested under the Chairmanship of Prof. Ashes Gupta, Department of English, Tripura University comprising of following members:

1. Controller of Examinations, Tripura University
2. Director, IQAC, Tripura University
3. Dean, Students' Welfare, Tripura University
4. Admission Coordinator, Tripura University.

The Chairman approved the same and all the Members unanimously endorsed the decision.

The meeting ended thanking the Chairman and Members.


(Dr. Deepak Sharma)
Registrar
Ex-officio Secretary


(Prof. Ganga Prasad Prasain)
Vice Chancellor &
Ex-officio Chairperson



No.F.TU/REG/AC/26/2024

Date: 31.07.2024

Minutes of the Twenty-sixth Meeting of the Academic Council of Tripura University held on 31st July, 2024 at 2:00 P.M. in the Council Hall, Administrative Building, Tripura University.

Members present:

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| 1. Prof. Ganga Prasad Prasain,
Vice-Chancellor, Tripura University | - Ex-officio Chairman |
| 2. Prof. Badal Kumar Datta, Dean,
Faculty of Science, Tripura University | -Member |
| 3. Prof. Chinmoy Roy, Dean,
Faculty of Commerce, Law,
Management & Information Science, Tripura University | -Member |
| 4. Prof. Swanirbhar Majumder, Head,
Department of Information Technology, Tripura University | -Member |
| 5. Prof. Ashes Gupta,
Deptment of English, Tripura University | -Member |
| 6. Prof. Y.V. Krishnaiah, Department of Geography &
Disaster Management, Tripura University | -Member |
| 7. Dr. Gautam Chakma, Associate Professor
Department of Political Science, Tripura University | -Member |
| 8. Dr. Dilip Rana, Assistant Professor,
Department of Economics, Tripura University | -Member |
| 9. Dr. Fr. Benny K. John, Principal,
Holy Cross College, Agartala, Tripura | -Member |
| 10. Dr. Dibakar Deb, Principal,
Techno College of Engineering, Agartala, Tripura | -Member |
| 11. Dr. Deepak Sharma
Registrar, Tripura University | - Ex-officio Secretary |

At the outset, Prof. Ganga Prasad Prasain, Hon'ble Vice-Chancellor & Chairman welcomed all the members. Thereafter, Dr. Deepak Sharma, Registrar & Secretary presented the agenda for discussion:

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Resolution: Minutes of the above meetings of the Academic Council were read out and approved unanimously.

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Handwritten signature and date:
31/7/24



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Resolution: Minutes of the above meetings of the IQAC were read and approved unanimously.

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Resolution: Minutes of the various meetings of the BUGS/BPGS/BFS were discussed and approved unanimously.

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Resolution: Rules & regulations governing Ph. D. Programme of Tripura University were approved after due deliberation.

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Resolution: It was resolved to adopt the UGC Guidelines for pursuing two academic programmes simultaneously. However, in this academic year 2024-25, due to constraints of resources students will be allowed to pursue one regular and one online course simultaneously.

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Resolution: It was resolved to approve the structure of the courses/revised syllabi of various programmes as approved by the BUGS/BPGS.

Also it was observed that the existing Regulations Governing Under Graduate Program in accordance with National Education Policy-2020 is also applicable to professional courses like BCA and B.Sc in IT w.e.f. the academic session 2023-24. Accordingly necessary amendment be made in the same.


31/7/23



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Resolution: The matter was approved and the Council proposed to start a Centre for Indian Knowledge System (IKS) in Tripura University.

Item No.11/26/2024: (i) To place for approval the Minutes of the meeting of the Committee constituted to examine the fee structures of Bachelor of Dental Surgery (BDS), MBBS, MD/MS and various Professional Courses of affiliated colleges/institutes to Tripura University held on 29.04.2024.

Resolution: Approved.

(ii) To consider the proposal for revision of fee structure of programmes, remuneration of Teachers/Experts of Tripura University as per decision of the Finance Committee of Tripura University in its 35th Meeting held on 15th March, 2023 (vide Agenda No:FC:35:2023:05)

Resolution: Approved

Item No. 12/26/2024: To institute an award 'Nilkarabi Gold Medal' as proposed by Dr. Nilmoni Deb Burman and Mrs. Karabi Deb Burman for the best student each in BA and MA in Bengali.

Resolution: Approved



Item No.13/26/2024: To place for approval the revised P.G Hostel Prospectus 2024 of Tripura University.

Resolution: Approved

Item No.14/26/2024: To place for approval the Academic Calendar 2023-24 & 2024-25 of the University.

Resolution: Approved

Item No. 15/26/2024: To place the matter regarding nominations of 05 (five) persons to the Board of the Faculty of Studies (BFS) by the Academic Council who have specialized and expertised in the subjects (of the faculty) and who are not employees of the University or of any of its affiliated or recognized institutions' in accordance with Ordinance A-2 (Under Section 31(1) (j) of the Tripura University Act, 2006 read with Clause (3) of Statute 15).

Resolution: The Hon'ble Vice-Chancellor, Tripura University has been authorized to nominate 05 (five) persons to each Board of the Faculty of Studies (BFS).

Item No.16/26/2024: To report the following for approval:

(i) Renaming of 'Bachelor in Medical Laboratory Technology (Operation Theatre) (BMTOT)' to 'Bachelor in Operation Theatre Technology' in TIPS, Hapania.

Resolution: Approved

(ii) The incorporation of Middle-Level Health Provider (MLHP) Topics into existing Curriculum of Community Health Nursing of B.Sc. Nursing Syllabus (4th Year) & Post Basic B.Sc. Nursing Syllabus (2nd Year) as per recommendation of Indian Nursing Council (INC).

Resolution: Approved

(iii) The inclusion of MCA & M.Sc. Computer Science in the eligibility qualification for admission into M.Tech programme in Data Science from the academic session 2023-24 (Ref: Letter of Principal, TTI, Narsingarh, Tripura West addressed to DHE, Govt. of Tripura dt. 20th April, 2023).

Resolution: Approved

(iv) The change of nomenclature of the course "Construction Automation" to "Civil Engineering (Construction Technology)" with effect from the academic session 2022-23.

Resolution: It was resolved to assign Dr. Dibakar Deb, Principal, Techno College of Engineering, Agartala to coordinate with Controller of Examinations (i/c), Tripura University to do the necessary.

(v) The Provisional Rules and Regulations Governing Integrated Master Degree Programme (IMD) in Tripura University in accordance with NIP-2020 w.e.f. the academic session 2023-2024.

Resolution: Approved and resolved that IMD (Common) & IMD (Commerce) be incorporated.


31/7/23



(vi) The grant of provisional affiliation to Tripura Santiniketan Medical College, Madhuban, Ranirkhamar, West Tripura for the academic year 2024-2025 as recommended by the College Development Council in its Emergent Meeting held on 11.07.2024.

Resolution: Approved

(vii) The publication of results of all UG/PG/other courses of Tripura University w.e.f. 17.12.2021 to 31.12.2023.

Resolution: Approved

Supplementary Agenda

Item No.17/26/2024: To consider adoption of New NMC (National Medical Commission) guidelines for MD/MS Examinations Notification dated: 29th December, 2023.

Resolution: Approved

Item No.16/26/2024: To approve the list of name of all Medal holders/recipients (UG/PG /Ph. D/ other degree holders) for conferment of degree/certificate for the Year 2023 in the 13th Convocation to be held on 08.09.2024.

Resolution: The Academic Council was informed that 13th Convocation of the University is scheduled to be held on 08.09.2024 and the list of names of all candidates for conferment of Ph. D degrees and medals for various UG/PG courses for the academic year 2023 as received from the Controller of Examinations, Tripura University was placed and approved.

Also, it was discussed and resolved to confer medal(s) to meritorious candidates of MD/MS of each department/subject for the academic year 2023.

Miscellaneous discussion:

1. Admission Committee was suggested under the Chairmanship of Prof. Ashes Gupta, Department of English, Tripura University comprising of following members:

1. Controller of Examinations, Tripura University
2. Director, IQAC, Tripura University
3. Dean, Students' Welfare, Tripura University
4. Admission Coordinator, Tripura University.

The Chairman approved the same and all the Members unanimously endorsed the decision.

The meeting ended thanking the Chairman and Members.


(Dr. Deepak Sharma)
Registrar
Ex-officio Secretary


(Prof. Ganga Prasad Prasain)
Vice Chancellor &
Ex-officio Chairperson



DEPARTMENT OF HISTORY
त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY
सूर्यमणिनगर / Suryamaninagar, त्रिपुरा / Tripura - 799022

Date: 11/12/2023

Proceedings of the Meeting of the BUGS in History held on the 11th December, 2023 at 11:00 AM in the Chamber of the Head, Department of History, Tripura University.

The meeting of the BUGS in History was held today *i.e.*, 11th December, 2023 at 11:00 AM in the Chamber of the Head, Department of History, Tripura University in hybrid mode with Prof. Sukhendu Debbarma in the Chair. The following members were present in the meeting:

1. Prof. H. Sudhirkumar Singh (Online)
2. Smt. Sanchita Reang
3. Dr. Monisankar Misra (special invitee)
4. Dr. Lincoln Reang
5. Prof. Sukhendu Debbarma-Chairperson

At the outset, the Chairperson extended welcome to all the members of the Board of Under-Graduate Studies (BUGS) in History for attending the meeting. After that the meeting commenced and following resolutions were taken:

Resolutions

Agenda No. 01: To discuss and approve the paper structure of UG/ 4 year degree course in History for Core, Elective, Interdisciplinary and IMD courses.

Resolution: Approved

Agenda No. 02: To discuss and approve the UG Syllabus in History (Major/ Honors Core) as per NEP-2020

Resolution: Approved upto second year (4 semester) syllabus

Agenda No. 03: To discuss and approve the UG Syllabus in History (Minor-Elective)

Resolution: Approved

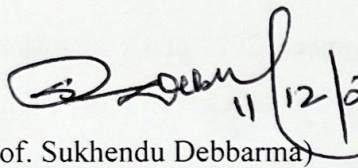
Agenda No. 04: To discuss and approve the UG Syllabus in History (Interdisciplinary Course)

Resolution: Approved

Agenda No. 04: To discuss and approve the Integrated Master Degree (IMD) Syllabus in History

Resolution: Approved upto second year (4 semester) syllabus

The meeting ended with thanks to the chair.



11/12/2023

(Prof. Sukhendu Debbarma)
Head and Chairperson
BUGS, Department of History,
Tripura University.

Copy to:

1. The Dean, Faculty of Arts and Commerce, TU for kind information
2. Prof. Indraneel Bhowmik, TU for kind information
3. All the members of BUGS.....

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I TO VIII)
MAJOR/HONOURS (CORE)
CBCS PATTERN (NEP-2020)

Approved by the BURS, History Meeting held on 11/12/2023

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang. 11/12/2023

③ Manisankar Hira 11/12/2023

④ ~~_____~~ 11/12/2023

⑤ ~~_____~~ 11/12/2023

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I TO VIII)
MINOR(ELECTIVE)

CBCS PATTERN (NEP-2020)

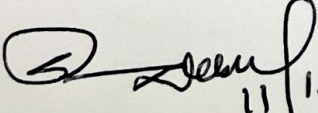
Approved by the BUCS, History Meeting held on 11/12/2023

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang. 11/12/2023

③ Manisankar Sain 11/12/2023

④ Amit Singh 11/12/2023

⑤  11/12/2023

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I, III & IV)
INTERDISCIPLINARY COURSES

CBCS PATTERN (NEP-2020)

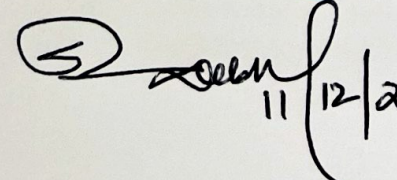
Approved by the BUGC, History Meeting held on 11/12/2023)

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang. 11/12/2023

③ Manisankar Das 11/12/2023

④ Anil Das 11/12/2023

⑤  11/12/2023

TRIPURA UNIVERSITY

SYLLABUS

FOR

INTEGRATED MASTERS'
DEGREE IN HISTORY

(SEMESTERS-I TO VI)

MAJOR/MINOR

CBCS PATTERN (NEP-2020)

Approved by BUGC, History meeting held on 11/02/2023

① Prof. Sudhis Kumar Singh (Present online)

② Sanchita Riang 11/12/2023

③ Manisankar Mir 11/12/2023

④ *[Signature]* 11/12/2023

⑤ *[Signature]* 11/12/2023



OFFICE OF THE HEAD, DEPARTMENT OF MATHEMATICS
TRIPURA UNIVERSITY, AGARTALA – 799022, TRIPURA

Date: February 22, 2024

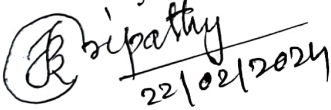
To
The Dean
Faculty of Science and Chairman BFS
Tripura University

Sub: Submission of the details of added/modified syllabus of different courses for MSc and PhD Course work

Sir,

I am to inform you that the Department of mathematics, Tripura has modified/added the following courses of the MSc, PhD Course work and Research Eligibility Test (RET). The modified parts and added parts have been prepared and sent to the BPGS members. Their feedbacks have been received and then the same have been incorporated. It was passed in the BPGS in its meeting held on 31-01-2024. You are requested to permit for uploading to the website of the University and intimate it in the next BFS meeting

Yours Faithfully


22/02/2024

(Prof. B.C. Tripathy)
HoD Mathematics, TU

अध्यक्ष/Head
गणित विभाग
Department of Mathematics
त्रिपुरा विश्वविद्यालय
Tripura University
(A Central University)

त्रिपुरा विश्वविद्यालय

TRIPURA UNIVERSITY

(केन्द्रीय विश्वविद्यालय / A Central University)

सूर्यमणिनगर / Suryamaninagar-799022

त्रिपुरा, भारत / Tripura, India.



फोन / Phone: (0381) 237 -9003

फैक्स / Fax: (0381) 237-4802

ईमेल / Email: dean_science@tripurauniv.in

वेबसाइट / Website: www.tripurauniv.ac.in

No.F. TU/Dean of Science/BFS/10/2016

Date: 11.07.2022

Minutes of the Joint Meeting of Board of Faculty of Studies of Arts & Commerce and Science held on 11.07.2022 at 11.00 am on hybrid mode in the Council Hall of Tripura University.

At the outset, Prof. G.P. Prasain, Hon'ble Vice-Chancellor, T.U. welcomed all the members present in the offline and online mode and requested them to give their valuable views on the agenda. Later the meeting was handed over to the Deans.

Members present:

1. Prof. R.K. Sinha, Department of Botany, T.U. - Member
2. Prof. A.K. Saha, Department of Botany, T.U. - Member
3. Prof. Sipra Ray, Department of Sanskrit, T.U. - Member
4. Prof. R.K. Nath, Department of Chemistry, T.U. - Member
5. Prof. R.N. Dutta Purkayastha, Coordinator, IMD, T.U. - Member
6. Prof. S. Majumdar, Department of Chemistry, T.U. - Member
7. Prof. Swanirbhar Majumder, Department of IT, T.U. - Member
8. Prof. B.C. Tripathy, Department of Mathematics, T.U. - Member
9. Prof. Rajesh Bhowmik, Department of Fine Arts, T.U. - Member
10. Prof. N.S. Thingujam, Department of Psychology, T.U. - Member
11. Prof. S. Chattopadhyaya, Department of Physics, T.U. - Member
12. Prof. Ashes Gupta, Department of English, T.U. - Member
13. Prof. Debasish Maiti, Department of Human Physiology, T.U. - Member
14. Prof. Indraneel Bhowmik, Department of Economics, T.U. - Member
15. Prof. C.B. Majumder, Department of Political Science, T.U. - Member
16. Prof. D. Bhattacharjee, Department of Physics, T.U. - Member
17. Prof. Sabyasachi Dasgupta, Department of Forestry & Biodiversity, T.U. - Member
18. Prof. S. Bhattacharya (Halder), Department of Mathematics, T.U. - Member
19. Prof. Dipayan Choudhuri, Department of Human Physiology, T.U. - Member
20. Prof. Y.V. Krishnaiah, Department of Geography & Disaster Management, T.U. - Member
21. Prof. Shaon Ray Chaudhuri, Department of Microbiology, T.U. - Member
22. Prof. N. Das (Pan), Department of Geography & Disaster Management, T.U. - Member
23. Prof. S.A. Hussain, Department of Physics, T.U. - Member
24. Prof. Chinmoy Roy, Department of Commerce, T.U. - Member
25. Prof. R.K. Mahapatra, Department of Library & Information Science, T.U. - Member
26. Prof. Sukhendu Debbarma, Department of History, T.U. - Member
27. Prof. Debarshi Mukherjee, Department of Business Management, T.U. - Member
28. Dr. M.K. Bhowmik, Department of CSE, T.U. - Member

29. Dr. Saptarshi Mitra, Department of Geography & D.M, T.U. - Member
30. Dr. Abhishek Majumder, Department of CSE, T.U. - Member
31. Dr. Biplab Debnath, Department of Political Science, T.U. - Member
32. Dr. Champa Nandi, Department of E.E., T.U. - Member
33. Dr. Sorochita Basu, Department of Botany, T.U. - Member
34. Dr. Alak Roy, Department of IT, T.U. - Member
35. Dr. Prasanta Kr. Das, Department of Physical Education, T.U. - Member
36. Dr. Bimal Debnath, Department of Forestry & Biodiversity, T.U. - Member
37. Dr. Subhash Sarkar, Department of Education, T.U. - Member
38. Dr. Tinku De (Gope), Department of Education, T.U. - Member
39. Dr. S.N. Tiwari, Department of Sanskrit, T.U. - Member
40. Dr. S.S. Singh, Department of Zoology, T.U. - Member
41. Dr. Gautam Chakma, Department of Political Science, T.U. - Member
42. Dr. Gobinda Gopal Khan, Department of MSE, T.U. - Member
43. Dr. B.M. Pandey, Department of Law, T.U. - Member
44. Dr. Subir Kr. Sen, Department of Commerce, T.U. - Member
45. Dr. Ajaykumar M. Savane, Department of Music, T.U. -Member
46. Dr. Samrat Hore, Department of Statistics, T.U. - Member
47. Dr. Sachin Bhaladhare, Department of Chemical & Polymer Engineering, T.U. - Member
48. Dr. P. Karuna Purnapa Rupa, Department of Material Science & Engineering, T.U. - Member
49. Dr. Samir Debbarma, Department of Kokborok, T.U. - Member
50. Dr. Jayanta Pal, Department of IT, T.U. - Member
51. Dr. Anirban Karmakar, Dept.of Electronics & Communication Engineering, T.U. - Member
52. Dr. Bishanka Brata Bhowmik, Dept.of Electronics & Communication Engineering, T.U. - Member
53. Dr. S. Indrakumar, Department of Linguistics & Tribal Language, T.U. - Member
54. Dr. Khawlsongkim Suantak, Department of Linguistics & Tribal Language, T.U. - Member
55. Dr. Partha Sarathi Sil, Department of Sanskrit, T.U. - Member
56. Dr. Pratap Ch. Acharya, Department of Pharmacy, T.U. - Member
57. Dr. Ratan Das, Department of Physics, T.U. - Member
58. Dr. Rajat Deb, Department of Commerce, T.U. - Member
59. Dr. Sudipta Pal, Department of Human Physiology, T.U. - Member
60. Parama Chakma, Department of Sociology, T.U. - Member
61. Subrata Dey, Department of Fine Arts, T.U. - Member
62. Prof. B.K. Datta, Dean, Faculty of Science, T.U. - Chairman
63. Prof. Shyamal Das, Dean, Faculty of Arts & Commerce, T.U. - Chairman

Agenda No. 01. To place the NEP 2020 Under Graduate Syllabus of following Departments:

Sl. No.	Name of the Department (Arts & Commerce)	Name of the Department (Science)
1.	BPA Music/Vocal	Geography & Disaster Management
2.	Bengali	Human Physiology
3.	Physical Education	Mathematics
4.	Education	Statistics

5.	Commerce	Information Technology
6.	Psychology	Environmental Science
7.	Sanskrit	Botany
8.	Sociology	Computer Science & Engineering
9.	Economics	Chemistry
10.	History	Physics
11.	Hindi	Zoology
12.	English	-
13.	Linguistics & Tribal Language	-
14.	Philosophy	-
15.	Political Science	-
16.	Fine Arts	-
17.	Kokborok	-
18.	Pali	-
19.	BBA	-
20.	IMD Science, Arts & Commerce including old courses	

Resolution: Approved.

Agenda No. 02. To report the names of Ph.D. Research Scholars who got awarded Provisional Ph.D. Degree under the Faculty of Science and Arts & Commerce, T.U.
(Annexure-1)

Resolution: Approved.

Misc. 01. PG Syllabus of 2 years M. Sc. I.T. to be run in NEILIT Agartala Centre under T.U.

Resolution: Approved.

- 02. (i)** Change of nomenclature of specialization name as Electronics & Communications Engineering which was previously Electronics & Communication Engineering.
(ii) Approval of updated syllabus of M. Tech.

Resolution: Approved.

- 03.** Introduction of B.Tech Course in Artificial Intelligence and Machine Learning under joint Collaboration of Department of Mathematics and Computer Science & Engineering of T.U. Course structure and regulation submitted thereof.

Resolution: Approved.

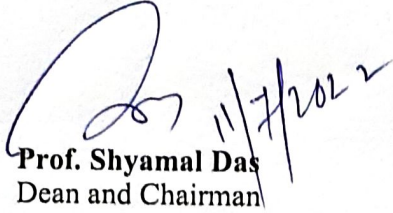
- 04. (i)** New syllabus course Structure for M. Tech Programme on Power and Energy System under the Department of Electrical Engineering, TIT.

- (ii) Modification of paper MEE1002C name and syllabus (new paper name Advance Power System instead of Power System Protection and Switchgear)

Resolution: Approved.

- 05.** All the modified/ revised Syllabus of UG and PG Courses as reported in respective BUGS & BPGS.

Resolution: Approved.



Prof. Shyamal Das
Dean and Chairman

Board of Faculty of Studies of Arts & Commerce
Tripura University



Prof. B.K. Datta
Dean and Chairman

Board of Faculty of Studies of Science
Tripura University

Copy to:-

1. PS to the Hon'ble Vice Chancellor, Tripura University, for kind information.
2. PA to Registrar, Tripura University, for kind information.
3. Dy. Registrar (Academic), Tripura University, for kind information.
4. Controller of Examinations, Tripura University, for kind information.
5. Finance Officer, Tripura University, for kind information.
6. All members of the Board of Faculty of Studies of Science and Arts & Commerce, T.U.



त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY

सूर्यमणिनगर/ Suryamaninagar, त्रिपुरा/ Tripura- 799022

The 13th meeting of Board of Post Graduate Studies (BPGS) of Department of Electronics & Communication Engineering, Tripura University, held on 23/08/2023 in the Department of Electronics & Communication Engineering, Tripura University at 12 Noon.	
Agenda 1: To confirm the proceedings of 12 th meeting of BPGS held on 15/12/2022.	Resolution: Proceedings of 12 th meeting of BPGS held on 15/12/2022 is confirmed.
Agenda 2: Approval of progress Reports of Semester-IV & V by Ph.D. scholars Mr. Satyabrata Singha (Enrolment No: 1901350003), Mr. Srikanta Das (Enrolment No: 1901350004), Miss. Anindita Bhattacharjee (Enrolment No: 1901350001) & Miss. Piyali Chakraborty (Enrolment No: 1901350002). Approval of Progress Reports of Semester-I, II & III of Ph.D scholars Nitish Sinha (2089900001), Suman Debnath (2089900003) & Semester-I, II of Puja Das (2089900002).	Resolution: All Progress Reports are satisfactory (S) and they have earned credit 8 for each semester. Ph.D. synopsis presented by scholars Nitish Sinha, Suman Debnath & Puja Das is also approved.
Agenda 3: Approval of Pre-PhD public seminar of the scholar Miss. Anindita Bhattacharjee (Registration Number:F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg. TU.	Resolution: It is resolved that Pre-PhD public seminar of the scholar Miss. Anindita Bhattacharjee (Registration Number: F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg. TU is approved.
Agenda 4: Approval of external expert for evaluation of Ph.D. summary and approval of six possible adjudicators for the evaluation of Ph.D. thesis of the scholar Miss. Anindita Bhattacharjee (Registration Number:F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg., TU.	Resolution: External expert for evaluation of Ph.D. summary and the names of six possible adjudicators as approved by RAC for the evaluation of Ph.D. thesis of the scholar Miss. Anindita Bhattacharjee is approved.
Agenda 5: Reporting of the names of paper setters, examiners & moderators of all previous semesters of M.Tech in E.C.E., TU and M.Tech in VLSI Embedded Systems, TIT.	Resolution: Names of paper setters, examiners & moderators are approved.
Agenda 6: Commencement of new syllabus of M.Tech, Electronics & Communication Engg., TU as approved in the BFS held on 11/07/2022.	Resolution: Commencement of new syllabus can be done from current semester.
Agenda 7: Change of RAC member Dr. Anuradha Saha (Co-Supervisor) of the PhD scholar Miss. Puja Das.	Resolution: It is decided that Prof. Swanirbhar Majumder (IT. Dept., TU) will act as a RAC member instead of Dr. Anuradha Saha for the PhD scholar Miss. Puja Das.
Miscellaneous if any: Approval of external expert for evaluation of Ph.D. summary and approval of six possible adjudicators for the evaluation of Ph.D. thesis of the scholar Mr. Srikanta Das (Enrolment No: 1901350004) of the dept. Electronics & Communication Engg., TU.	Resolution: External expert for evaluation of Ph.D. summary and the names of six possible adjudicators as decided by RAC for the evaluation of Ph.D. thesis of the scholar Mr. Srikanta Das is approved.


Meeting ended with a vote of thanks to the chair.



त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY

सूर्यमणिनगर/ Suryamaninagar, त्रिपुरा/ Tripura- 799022

BPGS Members present:

<p>Prof. B. K. Datta (Dean, Faculty of Science, T.U.)</p> <p> 23/8/2023</p> <p>Chairman of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Dr. BishankaBrata Bhowmik (Assistant Professor, Electronics & Communication Engg. Dept)</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Dr. Anirban Karmakar (Assistant Professor, Electronics & Communication Engg. Dept., T.U.)</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Prof. Swanirbhar Majumder (Professor, Dept. of IT, T.U.)</p> <p> 23/08/2023</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Prof. Brinda Bhowmik, Dept. of ECE, NIT Silchar</p> <p> Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Prof. Rabindranath Bera, Dept. of ECE, Sikkim Manipal Institute of Technology, Sikkim</p> <p> 23-08-2023</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Dr. Pranab Kishore Dutta, Associate Prof., Dept. of ECE, NEERIST, Nirjuli, Arunachal Pradesh</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	

BBA course structure for the academic session 2023-24

Year-I

Year	Semester	Major Courses with course code and L-T-P values	Minor Courses with course code and L-T-P values	Interdisciplinary Courses with course code and L-T-P values	Skill enhancement / Internship / Vocational / Dissertation with course code and L-T-P values	Ability Enhancement Courses with course code and L-T-P values	Common Value-Added Courses/ Project/ Survey with course code and L-T-P values	Credit	Total Credit	Award
I	I	Management Principles & Practice (BS200C) (3-1-0=4)	Managerial Economics (BS244M) (3-1-0=4)	Business Communication (BS266E)(2-1-0 = 3)	As per annexure I (1-0-2 = 3)	-----	As per annexure I (1-1-0 = 2)	20	40	Certificate in Business Administration (40)
		Fundamentals of Accounting for Business (BS 201C) (3-1-0=4)								
I	II	Management Accounting (BS202C) (3-1-0 = 4)	Human Resource Management (BS245M) (3-1-0=4)	-----	As per annexure I (2-1-0 = 3)	As per annexure I (2-1-0 = 3)	As per annexure I (1-0-1 = 2)	20	40	Certificate in Business Administration (40)
		Marketing Management-I (BS203C) (3-1-0 = 4)								

BBA course structure for the academic session 2023-24

Year-II

Year	Semester	Major Courses	Minor Courses	Interdisciplinary Courses	Skill enhancement/ Internship / Vocational / Dissertation	Ability Enhancement Courses	Common Value-Added Courses/ Project/ Survey	Credit	Total Credit	Award
II	III	Marketing Management-II (BS204C) (3-1-0=4)	Organizational Behavior (BS246M) (3-1-0 = 4)	Commercial Law (BS267E) (2-1-0=3)	As per annexure I (2-1-0 = 3)	-----	Internship (BS277VA) (1-1-2 = 4)	22	42	Diploma in Business Administration (82)
		Financial Management(BS205C) (3-1-0 = 4)								
	IV	Customer Relationship Management (BS206C) (3-1-0=4)	Operations Management (BS247M) (3-1-0=4)	Research Methodology (BS268E) (2-1-0 = 3)	-----	As per annexure I (2-1-0 = 3)	As per annexure I (1-1-0 = 2)	20		
		Financial Market & Institutions (BS207C) (3-1-0=4)								

BBA course structure for the academic session 2023-24

Year-III

Year	Semester	Major Courses	Minor Courses	Interdisciplinary Courses	Skill enhancement /Internship/ Vocational / Dissertation	Ability Enhancement Courses	Common Value-Added Courses / Project / Survey	Credit	Total Credit	Award
III	V	<p>Group1: Marketing:</p> <ol style="list-style-type: none"> 1. Consumer Behavior (BS208C) (3-1-0=4) 2. Advertising & Sales Promotion (BS209C) (3-1-0=4), 3. Marketing Research (BS210C) (3-1-0=4), 4. Retail Marketing (BS211C)(3-1-0=4) 	<p>1. E-Commerce Marketing (BS248M) (3-1-0=4),</p> <p>OR,</p> <p>1. Indian Financial System (BS249M) (3-1-0=4),</p> <p>OR,</p> <p>1. Training & Development (BS250M) (3-1-0 = 4)</p>	-----	-----	-----	-----	20	20	-----
		<p>Group2: Finance:</p> <ol style="list-style-type: none"> 1. Financial Statement Analysis –I (BS212C) (3-1-0 = 4) 2. Business Taxation (BS213C) (3-1-0 = 4) 3. Advanced Management Accounting (BS214C)(3-1-0 = 4) 4. Insurance Management (BS215C)(3-1-0=4) 								
		<p>Group3:Human Resource:</p> <ol style="list-style-type: none"> 1. Human Resource Planning-I(BS216C)(3-1-0 =4) 2. Industrial Relations (BS217C) (3-1-0=4) 3. Wages & Salary Administration (BS218C) (3-1-0=4) 4. Human Resource Development-I (BS219C) (3-1-0= 4) 								

BBA course structure for the academic session 2023-24

Year-III

Year	Semester	Major Courses	Minor Courses	Interdisciplinary Courses	Skill enhancement /Internship/ Vocational / Dissertation	Ability Enhancement Courses	Common Value- Added Courses/ Project / Survey	Credit	Total Credit	Award
III	VI	<p>Group1: Marketing: 1. Service Marketing (BS220C) (3-1-0=4), 2. Rural Marketing (BS221C) (3-1-0=4), 3. Sales Management & Personal Selling (BS222C)(3-1-0=4) 4. Product & Brand Management (BS223C) (3-1-0=4)</p> <p>Group2: Finance: 1. Financial Statement Analysis-II (BS224C)(3-1-0=4), 2. International Business Finance (BS225C)(3-1-0=4) 3. Working Capital Management (BS226C) (3-1-0=4) 4. Security & Portfolio Management (BS227C)(3-1-0=4)</p> <p>Group3: Human Resource: 1. Labour Law (BS228C)(3-1-0=4) 2. Strategic Human Resource Management (BS229C)(3-1-0=4) 3. Human Resource Planning– II (BS230C) (3-1-0=4) 4. Human Resource Development-II(BS231C)(3-1-0=4)</p>	1. Marketing Communication (BS251M) (3-1-0=4), OR, 1. Banking Management (BS252M) (3-1-0=4) OR, 1. Performance Appraisal & Compensation Management (BS253M) (3-1-0=4)	-----	-----	As per annexure I (1-1-0=2)	-----	22	20 +22 =42	Degree in Business Administration (Specialization in Marketing/HR/ Finance (124)

BBA course structure for the academic session 2023-24
Year-IV

Year	Semester	Major Courses	Minor Courses	Interdisciplinary Courses	Skill enhancement/ Internship / Vocational / Dissertation	Ability Enhancement Courses	Common Value-Added Courses / Project / Survey	Credit	Total Credit	Award
IV	VII	<p>Group1:Marketing (Honours): 1.Direct Marketing (BS232C) (3-1-0=4), 2.Industrial Marketing (BS233C) (3-1-0=4), 3.International Marketing (BS234C) (3-1-0=4), 4.Digital Marketing (BS235C) (3-1-0=4)</p>	<p>Marketing for Travel & Tourism (BS254M) (3-1-0 = 4),or, Marketing Ethics (BS255M)(3-1-0=4),or, Strategic Marketing Management (BS256M) (3-1-0 = 4), or, B2B & B2C Marketing (BS257M) (3-1-0=4)</p> <p>OR, Risk Management (BS258M) (3-1-0=4), or, Corporate Tax Planning & Management (BS259M) (3-1-0=4), or, Project Management (BS260M) (3-1-0=4), or, Principles of Banking & Risk Management (BS261M) (3-1-0=4)</p> <p>OR,</p>					20	40	Business Administration (Honours / Honours with Research) in Marketing / HR / Finance (164)
		<p>Group2: Finance (Honours): Global Financial Management (BS236C) (3-1-0 =4) Strategic Financial Management(BS237C)(3-1-0 =4) Corporate Financial Reporting(BS238C)(3-1-0 =4) Personal Finance (BS239C)(3-1-0=4)</p>	<p>Group3:Human Resource (Honours): Human Resource Information System (BS240C) (3-1-0=4) Human Resource Accounting (BS241C)(3-1-0 = 4) Negotiation and Counseling (BS242C)(3-1-0= 4) HR Audit (BS243C)(3-1-0 =4)</p>							

							<p>Current Trends in HRM(BS262M) (3-1-0 = 4) or, HR Ethics (BS263M) (3-1-0=4) or, Legal frame work for governing Human Relation(BS264M) (3-1-0 = 4) or, International HRM (BS265M) (3-1-0=4)</p>					
							<p>MAJORPROJECT</p>				<p>III A</p>	<p>20</p>

Proposed Syllabus for 2023-24 Academic Session

Proposed Syllabus for 1st Year
(1st & 2nd Semester)

SEMESTER I

Paper Code: BS200C

Paper Name: Management Principles & Practice

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective for this course to provide an understanding of the task and functions of management and to acquaint the participants with the developments in concept. Theories and practices in the overall field of management.

UNIT I

Nature and significance of Management, Approaches of management, Contributions of Taylor, Fayol and Barnard, Functions of a Manager, Social responsibility of Managers, Values in management.

UNIT II

The Nature of significance of Planning, Objectives, Steps of Planning, Decision making as key step in planning. The Process and Techniques of Decision Making. Organization: Nature and significance, Approaches, Departmentation, Line and staff relationships, Delegation and Decentralization, Committee system, Department of effective organizing

UNIT III

Staffing, nature and Significance, Selection, Appraisal and Development of Managers. Directing: Issues in managing human factors, Motivation, nature and Significance's, Theories and Techniques.

UNIT IV

Communication Definition and Significance, Process, Barriers of Communication, Building effective communication system. Controlling: Definition and Elements Control Techniques, Coordination, Determinants of an Effective Control system, Managerial Effectiveness.

References:

1. Koontz H., Weihrich H. (2009); Principles of Management; Tata Mc Graw Hill; 8th Edition.
2. Williams C (2009) Principles of Management; South-Western/Cengage Learning; 5th Edition.
3. Prasad L.M, principles and Practice of Management, Sultan Chand & Sons, 20th Edition.
4. Jaiswal B. & Maheshwari R.K. (2010), Essentials of Management: NRBC.
5. Weihrich Heinz and Koontz Harold (2013); Management: A Global, Innovative, and Entrepreneurial Perspective; Mc Graw Hill; 14th Edition.
6. Andrew Leigh (2012); The Essentials of Management: Everything you need to succeed as anew manager; Pearson UK; 2nd Edition.

SEMESTER I

Paper Code: BS201C

Paper Name: Fundamentals of Accounting for Business

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcomes: On successful completion of the course, the students will be able to understand the basic concepts of accounting, pass journal entries and prepare ledger accounts, prepare subsidiary books, prepare trial balance and final accounts of proprietary concern, use accounting concepts in spreadsheet

UNIT I: INTRODUCTION TO ACCOUNTANCY

Introduction – Meaning and Definition – Objectives of Accounting – Functions of Accounting– Users of Accounting Information – Limitations of Accounting – Accounting Cycle - Accounting Principles – Accounting Concepts and Accounting Conventions. Accounting Standards-objectives-significance of accounting standards.

UNIT II: ACCOUNTING PROCESS

Process of Accounting - Double entry system – Kinds of Accounts – Rules-Transaction Analysis – Journal – Ledger – Balancing of Accounts – Trial Balance – Problems on Journal, Ledger Posting and Preparation of Trial Balance

UNIT III: SUBSIDIARY BOOKS

Meaning – Significance – Types of Subsidiary Books –Purchases Book, Sales Book (With Tax Rate), Purchase Returns Book, Sales Return Book, Bills Receivable Book, Bills Payable Book. Types of Cash Book- Simple Cash Book, Double Column Cash Book, Three Column Cash Book and Petty Cash Book (Problems only on Three Column Cash Book and Petty Cash Book).

UNIT IV: FINAL ACCOUNTS OF PROPRIETARY CONCERN

Preparation of Statement of Profit and Loss and Balance Sheet of a proprietary concern with special adjustments like Depreciation, Outstanding and Prepaid Expenses, Outstanding And Received In Advance of Incomes, Provision for Doubtful Debts, Drawings and Interest On Capital.

UNIT V: EXPERIENTIAL LEARNING

Creation of Subsidiary Books in Spreadsheet: Purchases Book, Sales Book (With Tax Rate), Purchase Returns Book, Sales Return Book, Bills Receivable Book, Bills Payable Book. Types of Cash Book Simple Cash Book, Double Column Cash Book, Three Column Cash Book and Petty Cash Book. Preparation of Statement of P/L, Balance Sheet in Spreadsheet.

Reference Books:

1. Hanif and Mukherjee, Financial Accounting, McGraw Hill Publishers
2. Arulanandam & Raman; Advanced Accountancy, Himalaya Publishing House
3. S.Anil Kumar,V.Rajesh Kumar and B.Mariyappa–Fundamentals of Accounting, Himalaya Publishing House.
4. Dr. S.N. Maheswari, Financial Accounting, Vikas Publication
5. S P Jain and K. L. Narang, Financial Accounting, Kalyani Publication
6. M.C. Shukla and Goyel, Advanced Accounting, S Chand.

SEMESTER I

Paper Code: BS244M

Paper Name: Managerial Economics

Total Credit: 4 (L-T-P = 3-1-0)

Course Objective: To impart basic knowledge of the concepts and tools of Economic Analysis as relevant for Business Decision-Making.

UNIT I

Nature and Scope of Managerial Economics: Basic Tools- Opportunity Cost principle, Incremental principle, Equi-Marginal Principle. Principle of Time perspective, Discounting Principle. Uses of Managerial Economics.

Demand Analysis: Demand Theory, The concepts of Demand, Determinants of Demand. Demand Function and Elasticity of Demand and its uses in Business decisions.

UNIT II

Production Analysis: Concept of Production, Factors, Laws of Production, Economies of Scale, Economies of Scope, Production functions.

Cost Analysis: Cost Concept, Types of Costs, Cost function and cost curves, Costs in short and long run, LAC and Learning Curve.

UNIT III

Market Analysis: Price-output determination in different markets, Perfect competition, Monopoly, Price discrimination under monopoly, Monopolistic competition, Duopoly and Oligopoly markets, Different pricing policies.

UNIT IV

Introduction to Macro Economics. National Income Aggregates. Concept of Inflation- Inter-Sectoral Linkages: Macro Aggregates and Policy Interrelationships – Tools of Fiscal and Monetary Policies. Profit Analysis: Nature and Management of Profit, Profit Theories, Function of Profits, Profit policies.

Recommended book(s)

1. Agarwal M.K. (2015), Industrial Economics, New Age International.
2. Thomas & Maurice (2015), Managerial Economics, Tata McGraw Hill
3. Koutsoyiannis.A. (2013) Modern Micro Economics. Mc Millan
4. Peterson H.C & Lewis (2003) Managerial economics, Tata McGraw Hill

SEMESTER I

Paper Code: BS266E

Paper Name: Business Communication

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course aims to develop communication skills in equip students with a broad-based knowledge business communication.

UNIT I

Introduction to business communication, characteristics of effective organizational communication, basic forms of communication, process of communication, Barriers to Communication, Principles of effective business communication.

UNIT II

Oral communication: Purpose, Advantages & Disadvantage, Principles of Oral Communication, Effective Listening, Non-verbal Communication. Written communication: Purpose, Advantages & Disadvantage, Principles of Written Communication, Effective writing techniques. Employment Communication: Application letter and Resume writing,

UNIT III

Conduct of meeting – agenda, notice, notes, minutes, office memorandum, office orders, press release, Business Letter Writing– Need, Functions and kinds, layout and types. Report Writing – problems, organization and techniques. (Practical's/Projects)

UNIT IV

Corporate Communication: Scope, Components, Corporate communication and Public relations, Role of Social Media in Communication. Role of Technology in Communication (ICT's), Business Etiquettes.

References:

1. Pal R. (2012) Business Communication, Sultan Chand & Sons Publication.
2. Bisen V. & Priya (2019), Business Communication, New Age International.
3. M.K. Sehgal & V. Khetrapal - Business Communication (Excel Books).
4. Chaturvedi P.D. (2006) Business Communication, Pearson Education.
5. Lesikar RV & Pettit Jr. JD (2018), Basic Business Communication: Theory & Application, Tata Mc Grow Hill.
6. Tayler Shinley (2016), Communication for Business, Pearson Education.

SEMESTER II

Paper Code: BS202C

Paper Name: Management Accounting

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The learner will be able to describe and recognize the principals of management accounting. The learner will be able identify, interpret, and express principals of management accounting with reference to syllabus. The learner will be able to calculate and solve practical problems based on syllabus of management accounting.

Unit I

Introduction to Management Accounting: Conceptual understanding, Relation between Management Accounting and Cost Accounting, Role of a management account in modern business world.

Unit II

Standard costing: Meaning, Concepts and Objectives, Merits and Demerits of Standard costing, Prerequisite for establishment of standard costing, Efficiency and Activity Ratios, Variance Analysis and Control.

Unit III

Budgetary Control: Concepts and Objectives, Merits and Demerits of Budgetary Control, Fixed and Flexible Budget, Cash Budget and master Budget, Zero based Budgeting

UNIT IV

Methods of costing: Job costing- need and importance, Process Costing-Meaning, significance and problems, Concept of Target costing and Life Cycle Costing.

Books Recommended:

1. Jawahar Lal, Cost Accounting, Tata McGraw Hill New Delhi
2. B.M. Lall Nigam and I.C. Jain, Cost Accounting, Principles, Methods and Techniques, PHI Pvt. Ltd, New Delhi
3. Bhabator Banerjee, Cost Accounting –Theory and Practice, PHI Pvt. Ltd, New Delhi.
4. H. V. Jhamb, H. V. Jhamb, Fundamentals of Cost Accounting, Ane Books Pvt Ltd, New Delhi
5. M. N. Arora, Cost Accounting – Principles and Practice, Vikas Publishing House, New Delhi.
6. M.C. Shukla, T.S. Grewal and M P. Gupta, Cost Accounting, Text and Problems, S. Chand & Co. Ltd., New Delhi
7. S.P. Jain and K. L. Narang, Cost Accounting, Principles and Methods, Kalyani Publishers, Jalandhar
8. S. N. Maheshwari & S.N. Mittal, Cost Accounting, Theory and Problems, Shri Mahabir Book Depot, New Delhi

SEMESTER II

Paper Code: BS203C

Paper Name: Marketing Management - I

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcomes: On successful completion of the course, the students will be able to understand the concepts and functions of marketing, analyze marketing environment its impact on the business, describe marketing mix and also strategize marketing mix, describe service marketing mix, understand the various acts related to marketing.

Unit-I

Fundamentals of Marketing: Introduction to Marketing, Evolution of Marketing, Meaning and Definitions, Objectives, Importance and Functions of Marketing, Traditional Marketing Concept vs Modern Marketing Concept. Marketing V/S Selling, Marketing Myopia, Approaches to Marketing

Unit-II

Marketing Research & Marketing Environment: Meaning of Marketing Research, Process, Barrier in Marketing Research. Concept of Marketing Environment, Environmental Scanning, Benefits of Environmental Scanning, Components of Marketing Environment.

Unit-III

Marketing Psychology & Consumer Buying Behaviour: Creating customer value, Satisfaction & Loyalty, Model of Consumer Behavior, Consumers use or Disposal of Products, Business Buying Process

Unit-IV

Identifying Market Segments and Targets: Segment Marketing, Niche Marketing, Local Marketing, Individual Marketing, Consumer Market Segmentation Bases, Business Market Segmentation Bases, Market Targeting, Market Fragmentation and Consolidation.

SUGGESTED BOOKS:

1. Marketing Management Kotler, Keller, Koshi and Jha
2. Marketing Paul Baines, Chris Fill, Kelly Page
3. Marketing Management Ramaswamy, Namakumari
4. Marketing Management Tapan K. Panda
5. Marketing 3.0 Kotler, Kartajaya, and Setiawan
6. Sontakki, Marketing Management, Kalyani Publishers.

SEMESTER II

Paper Code: BS245M

Paper Name: Human Resource Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: On successful completion of the course, the students will be able to understand the concepts and principles of Human Resource Management. They should be able to define key HR terms, explain the importance of HR functions within organizations, and describe the roles and responsibilities of HR professionals, basics of recruitment and selection processes. They will be also able to understand concept of performance appraisal and ability to handle conflicts, address grievances, and promote employee well-being.

Unit 1: CONCEPT OF HUMAN RESOURCE MANAGEMENT:

Meaning, Definition, Nature, Scope, Objectives, Importance, Functions, Qualities and Role of HR Manager, HRM- A Line or Staff Function, Difference between Personnel Management & Human Resource Management.

Unit 2: HUMAN RESOURCE PLANNING AND JOB ANALYSIS:

Meaning, Definition, Objectives, Importance, Levels of HRP, Process, Barriers to HRP, Requisites for successful HRP.

Job Analysis: Meaning, Uses, Process, Methods of Data collection, Concept of Job Design, Techniques.

Unit 3: RECRUITMENT, SELECTION AND TRAINING & DEVELOPMENT:

Recruitment: Definition, Factors affecting Recruitment, Sources, Process; Selection: Meaning, Definition, Process.

Training and Development: Concept, Objectives, Benefits, Need, Steps, Methods.

Unit 4: PERFORMANCE APPRAISAL AND EMPLOYEE GRIEVANCES MANAGEMENT

Meaning, Objectives, Process, Methods, Problems, Making Performance Appraisal Effective, Steps to Appraisal. Employee Discipline. Employee Grievances: Concept, Form, Causes, Effects, Model Grievance Procedure, Guideline for handling Grievances, Absenteeism; Causes and Control.

SUGGESTED BOOKS:

1. Human Resource Management (Text & Cases) K.Asawathappa Tata Mcgraw Hill
2. Human Resource Management N.K.Singh Excel Books
3. Human Resource Management P.Subba Rao Himalaya Publications
4. Human Resource Management Saiyadain Tata Mcgraw Hil

Proposed Syllabus for 2nd Year
(3rd & 4th Semester)

SEMESTER III

Paper Code: BS204C

Paper Name: Marketing Management - II

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: On successful completion of the course, the students will be able to Understand the concepts of product life cycle and branding and new product development process, marketing ethics, concept and functions of integrated marketing channels and concept of integrated marketing communication.

Unit-I

Products, Pricing and Branding Decisions: Product Levels, Classifications of Product, Product Life-Cycles and Marketing Strategies, New Product Development Process, New Product Adoption Process, Branding: Definition of Brand, Types of Brands, Branding Strategies, Packaging, Labelling, Pricing and Product Costs, Setting Price, Adopting the Price, Responding to Price Changes.

Unit-II

Marketing Ethics and Innovations in Marketing: Meaning and Definition of Marketing Ethics, Ethical Decision-Making Process, Concept of - Green Marketing, Online Marketing, Digital Marketing, Content Marketing, Social Media Marketing.

Unit-III

Designing and Managing Integrated Marketing Channels: Definition of Marketing Channel, Importance, Hybrid Marketing Channel, Channel Functions and Flows, Channel Levels, Channel Design Decisions, Channel Management, Channel Integration, Retailing, Wholesaling, Market.

Unit-IV

Designing and Managing Integrated Marketing Communications: IMC to Build Brand Equity, Communication Process Models, Developing Effective Communication, Marketing Communications Mix and Implementation of IMC Tools.

SUGGESTED BOOKS:

1. Marketing Management Kotler, Keller, Koshi and Jha
2. Marketing Paul Baines, Chris Fill, Kelly Page
3. Marketing Management Ramaswamy, Namakumari
4. Marketing Management Tapan K. Panda
5. Marketing 3.0 Kotler, Kartajaya, and Setiawan

SEMESTER III

Paper Code: BS205C

Paper Name: Financial Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome:

1. Provide an in-depth view of the process in financial management of the firm.
2. Develop knowledge on the allocation, management and funding of financial resources.
3. Improving students' understanding of the time value of money concept and the role of a financial manager in the current competitive business scenario.
4. Enhancing student's ability in dealing short-term dealing with day-to-day working capital decision; and also, longer-term dealing, which involves major capital investment decisions and raising long-term finance.

UNIT 1:

INTRODUCTION TO FINANCIAL MANAGEMENT- Meaning, Need and objectives of Financial Management; Goal of a Firm; Profit Maximization V/s Wealth Maximization; Concept of Valuation; Valuation of Equity Share; Valuation of Preference; Valuation of Debenture. Time Value of Money- Basic concept viz. compounding, discounting; Present Value of a Single Amount; present Value of an annuity; Future value of a Single Amount; Future value of an annuity.

UNIT 2:

CAPITAL STRUCTURE- Meaning and Importance of Capital Structure; Factors determining capital structure; Theories of Capital Structure viz. Net Income Approach, Net Operating Income Approach, Traditional Approach, Modigliani and Miller Approach; Factors influencing capital structure; EBIT& EPS analysis; Leverages (Operating Leverage, Financial Leverage, Combined Leverage).

UNIT 3:

COST OF CAPITAL AND CAPITAL BUDGETING-Meaning and significance of cost of capital; Calculating cost of debt, Preference shares, equity capital, and retained earnings; Combined (weighted) cost of capital; Capital expenditure decisions; Pay-back period; return on investment; discounted cash flow, Dividend Policies

UNIT 4:

WORKING CAPITAL MANAGEMENT- Nature, Significance and classification of Working Capital; operating cycle and factors determining of working capital requirements (including problems); Management of working capital – cash, receivables, and inventories (Problems).

SUGGESTED BOOKS:

- i. Financial Management: I.M. Pandey, Vikas Publications.
- ii. Basic Financial Management: Khan & Jain, Tata McGraw Hill.
- iii. Financial Management (Text and cases): Khan & Jain, Tata McGraw Hill.

SEMESTER III

Paper Code: BS246M

Paper Name: Organizational Behaviour

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: On successful completion of the course, the students will be able to gain a deep understanding of individual and group behaviour, motivation, perception, and attitudes in the context of organizations. They will be able to explain the impact of these factors on employee performance, job satisfaction, and overall organizational climate. Several important skills and knowledge areas that students should develop throughout the course. It reflects the practical and theoretical understanding of how individuals and groups behave within organizational settings, and how this knowledge can be leveraged to enhance organizational effectiveness.

Unit I

Study of Organization Behaviour: Definition, Elements, Nature, Scope, Contributing Disciplines to O.B., Challenges & Opportunities for O.B

Concept of Organisation, Types, Importance, Organisational Designs (Simple, Bureaucracy and Matrix), New Designs (Team Structure, Virtual Organisation), Hawthorn Studies

Unit II

Personality Perception & Motivation: Concept of Personality, Determinants, Types, (Introvert, Extrovert, Type A, Type B), Theories, (Trait, Self, Psychoanalytical, Social theories, Job-Fit), Perception: - Definition, Process, Factor Influencing

Motivation – Concept, Theories (Maslow, Vroom’s Expectancy, Porter & Lawler theories), Application of Motivation

Unit III

Learning, Attitudes and Values:

Learning: Concept, Theories (Classical Conditioning, Operant Conditioning, Social Learning), Concept of Reinforcement

Attitude & Values: Definition, Types, Formation of Attitudes and Values – Job Satisfaction, Job Involvement.

Unit IV

Group Behaviour And Organizational Development: Definition of Group, Classification, Importance, Stages of Group Development, Group Decision Making. An Overview of Organizational Effectiveness, Change and Development, Approaches to Manage Organisational Change and Development (Lewin 3 Stage Model, Action Research, OD)

SUGGESTED BOOKS:

1. Organisational Behaviour S. P. Robbins Pearson Publication
2. Organisational Behaviour Robbins, Judge, Sangchi Pearson Publication
3. Organisational Behaviour-Text & Cases Shekharan Tata Mcgraww Hill
4. Organisational Behaviour K.Aswathapa Himalaya Publications
5. Understanding Organisational Behaviour Udai Pareek Oxford University Press

SEMESTER III

Paper Code: BS267E

Paper Name: Commercial Law

Total Credit: 3 (L-T-P = 2-1-0)

Course Outcome: By the end of the course, students should be able to understand fundamental legal concepts and principles applicable to commercial transactions, analyze and apply legal rules to various business scenarios and contracts, recognize potential legal issues and risks in business operations.

UNIT 1: INDIAN CONTRACT ACT, 1872:

Introduction, essentials of a valid contract, classification of contract according to their enforceability, Formation and Performance, offer and Acceptance, consideration, capacity to contract, Free consent - Coercion, Undue influence, void voidable unenforceable and illegal Agreements', discharge of contract termination of contract, Breach of contract - Remedies, Damages, Indemnity, guarantee.

UNIT 2: SALE OF GOODS ACT, 1930:

Formation of contracts of sale, goods and their classification, price, conditions and warranties, transfer of property in goods, performance of the contract of sale, unpaid seller and his rights, sale by auction, hire purchase agreement, Sales & Agreement to Sale.

UNIT 3: COMPANIES ACT, 2013:

Nature and kind of companies, formation, Memorandum and Articles of Association - contents, procedures for allegation, prospectus, capital shares, debentures, borrowing powers, minimum subscription, etc.

UNIT 4: LAWS RELATING TO PATENTS, TRADEMARKS AND COPYRIGHTS:

Meaning and Scope of Patent Act and Amendments of WTO Agreements, Rights of Patentee, Infringement, Remedies, Trademarks, Copyright.

SUGGESTED BOOKS:

1. Commercial and Industrial Law Dr. N. D. Kapoor S. Chand and Sons
2. Company Law Taxman
3. Business Law P.S.H Pillai, Bagavathi S. Chand and Co. Ltd
4. Business Law Bulchandani Himalaya Publishing House
5. Business Law S.N. Maheshwari Himalaya Publishing House

SEMESTER IV

Paper Code: BS15C

Paper Name: Customer Relationship Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By the end of the course, students should be able to understand the concepts and importance of Customer Relationship Management (CRM), analyze customer needs and expectations to design effective CRM strategies, dynamics in CRM, apply CRM technologies and tools for managing customer interactions and concept of eCRM

Unit 1:

Fundamentals of Customer Relationship Management: Meaning and definitions of CRM, Benefits of CRM, reasons for adopting CRM, Conceptual Foundations of Customer Relationship Management. Types, Stages and Issues in CRM.

Unit 2:

Dimensions of Customer Relationship Management:

Customer Satisfaction: Meaning and Definitions, Customer Satisfaction Models, Measuring Customer Satisfaction, ISO Guidelines.

Customer Loyalty: Concept, Principles, Significance, and Dimensions of Customer Loyalty, Consumer Experience, Consumer Engagement.

Unit 3:

Information Technology in Customer Relationship Management, Technological Development in CRM. Information Technology Implementation in CRM. Features, Advantages and Functional components of eCRM. Customer Relationship Management through Information Technology Tools.

Unit 4:

Emerging Dimensions and Dynamics in Customer Relationship Management, Customer Recall, Retention and Experience Management. Service Failure and Service Recovery Management. Application of Customer Relationship Management in different sectors, Role of Social Media.

SUGGESTED BOOKS:

1. Jagdish N Sheth, Parvatiyar Atul, G Shainesh; (2013), Customer Relationship Management: Tools and Applications Paperback; McGraw Hill Education.
2. Rai A K (2012), Customer Relationship Management by Prentice Hall India.
3. Jill Dyche, (2001), Customer Relationship Management; Pearson Publication
4. N Mullick ; (2016), Customer Relationship Management Paperback; Oxford University Press.
5. Mukherjee; (2007), Customer Relationship Management: by Prentice Hall India.

SEMESTER IV

Paper Code: BS207C

Paper Name: Financial Market & Institutions

Total Credit: 4 (L-T-P = 3-1-0)

Course Objective: This course is aimed at study of the fundamentals of financial markets and financial instruments, the features of the formation of modern financial markets, on the practical application of financial instruments, the types of financial institutions and their roles and functions in the financial markets. Students will be able to properly evaluate investment risks; build relationships with various financial institutions and intermediaries; evaluate the investment as a financial asset and use the various tools of the financial market; use strong financial-analytical skills and apply them to solve investment problems.

Unit – I

OVERVIEW: Meaning, Nature and functions of financial system, structure of Indian financial system, components of Indian financial system, financial regulations of RBI, Other Regulatory Institutions of India, Financial Sector reforms.

Unit-II

BASICS OF MONEY MARKET AND BOND MARKET: Meaning and feature of money market, participants in money market operations, Function of money market, money market instruments: C paper, T-Bill, C-Deposits. Role of RBI in promoting money market, Current scenario and issues.

Unit-III

BASICS OF CAPITAL MARKET AND STOCK MARKET: Meaning and feature of capital market, capital market instruments, Types of capital market & issue procedure, Stock Exchange operations in India, current issues. Role of SEBI in promoting capital market & protecting the interest of investors, current issues.

Unit – IV

NON-BANK FINANCIAL INTERMEDIARIES AND STATUTORY FINANCIAL ORGANIZATIONS: Provident fund and pension fund, Insurance companies, Miscellaneous Non-bank Financial Intermediaries, Non-Bank statutory Financial Organizations, Meaning, Feature & Importance of Mutual Funds, organizational structure of mutual fund, classification of mutual fund, mutual fund operations in India, Current Issues.

SUGGESTED BOOKS:

1. Financial Institutions and Markets, L M Bhole and Jitendra Mahakud, MC McGraw Hill.
2. Financial Institutions and Markets, Meir Kohn, Oxford university press
3. Indian Financial System, M Y Khan, Tata McGraw Hill.

SEMESTER IV

Paper Code: BS247M

Paper Name: Operations Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By the end of the course, students should be able to understand the fundamental concepts and theories of operations management, TQM, to analyze and solve operational problems in different business contexts and to develop skills in facilities location and scheduling, inventory planning and six sigma.

Unit 1: OPERATIONS MANAGEMENT: TRENDS AND ISSUES

Manufacturing trends in India, Services as part of Operations Management, Operations management: A system perspective, challenges in operations management Determinants of Process Characteristics in Operations, Types of Processes and operations Systems, Layout Planning, Implications of layout planning, Types of layouts, Design of Process Layout, Design of product layouts.

Unit 2: TOTAL QUALITY MANAGEMENT

The quality revolution, Quality Gurus, Definitions of quality, Total Quality Management, Quality management tools, Quality certifications and Awards, Design of quality assurance systems.

Unit 3: FACILITIES LOCATION & SCHEDULING OF OPERATIONS

Globalization of operations, Factors Affecting Location Decisions, Location Planning Methods. The Need for Scheduling, Scheduling: Alternative Terms, The Loading of Machines, The Scheduling Context, Scheduling of Flow shops, Scheduling of Job shops, Input-Output Control.

Unit 4: INVENTORY PLANNING AND SIX-SIGMA

Inventory Planning for independent Demand Items, Types of inventory, Inventory Costs, Inventory Control for Deterministic Demand Items, Handling uncertainty in Demand, Inventory control systems, Selective control inventory, Inventory Planning for Single-period Demand.

The Six-Sigma approach to Quality Control Management, Defects Per million Opportunities (DPMO), Organizations for Six-Sigma Quality, Process Control Fundamentals, Setting up a process Control System, Process improvement in the Long run, Six sigma and the process capability.

SUGGESTED BOOKS:

1. Operations Management: Theory & Practice B. Mahadevan Pearson Education
2. Operations Management Heizer Dorling Kindersley
3. Operations Management for Competitive Advantage Chase-Jacobs-Aquilano TMH

SEMESTER IV

Paper Code: BS268E

Paper Name: Research Methodology

Total Credit: 3 (L-T-P = 2-1-0)

Course Outcome: By the end of the course, students should be able to understand the fundamental concepts and stages of the research process, application of appropriate research methods and techniques to address business research questions, to collect, analyze, and interpret data using quantitative and qualitative approaches and to develop skills in designing research proposals and communicating research findings.

Unit 1: INTRODUCTION TO RESEARCH METHODOLOGY:

Meaning, Objectives, Types of Research, Importance, Approaches, Research Process, criteria of a good Research. Features of a good Design, Different Research, Designs, and Basic Principles of Experimental Designs.

Unit 2: SAMPLING DESIGN & MEASUREMENT & SCALING TECHNIQUES:

Census Vs Sample survey, steps in sampling Design, Criteria for selecting a sampling procedure, Types of Sample Design, Simple Vs Complex Random Sampling Designs & Techniques. Measurement in Research, Measurement Scales, Errors in Measurement, Measurement Tools, Meaning of Scaling, Scale classification Bases, Scale Construction Techniques.

Unit 3: METHODS OF DATA COLLECTION:

Types of data, Collection of Primary Data, Difference between questionnaires & schedules, some other methods of data collection, Collection of Secondary data, Selecting Appropriate data collection method, Guideline for Constructing questionnaire/ Schedule, Guideline for successful interviewing, Difference between survey & Experiment.

Unit 4: TESTING OF HYPOTHESES AND REPPORT WRITING:

Definition Hypotheses, Testing of Hypotheses, Procedure for hypotheses Testing, Measuring the Power of a Hypothesis Test, Important Parametric Test: Student's T test, ANOVA, Chi Square test. Meaning of Interpretation, Technique of interpretation, Precaution in Interpretation, Significance of Report writing, Different steps for Report writing, layout of the Research Report, Precautions for writing Research Report, Role of Computer in Research.

SUGGESTED BOOKS:

1. Research Methodology C.R. Kothari New Age
2. International Business Research Methods Zikmund, Berry, Babin South Western
3. Statistics for Management Richard L Levin, David S Rubin P

Proposed Syllabus for 3rd Year
(5th & 6th Semester)

SEMESTER V (Marketing - Major)

Paper Code: BS208C

Paper Name: Consumer Behaviour

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective for this course to provide the basic concepts and models of consumer behavior, make the students able to analyze the effects of psychological, socio-cultural and demographic factors on the consumer decision process with their results and to distinguish the relationship between consumer behavior and marketing practices.

UNIT I: INTRODUCTION TO CONSUMER BEHAVIOUR:

Introduction, Evolution of Consumer Behaviour, Factors affecting Consumer Behaviour, Scope & Application, Models of Consumer Behaviour (Nicosia, Howard-Sheth Model), Communication & Consumer Behaviour.

UNIT 2: THE INFLUENCING FACTORS ON CONSUMER:

Personality: Nature, Theories (Freudian, Neo- Freudian, Trait), Brand Personality. Motivation: Introduction, Dynamics of Motivation, Hierarchy of Need Theory, Motivational Research. Learning: Elements, Theories (Classical Conditioning, Operant Conditioning, Observational **Learning**), Measurement of Consumer Learning. Perception: Elements, Dynamics, Product Positioning, Perceived Price - Quality Relationship, Perceived Risk. Attitude: Introduction, Models (Tri-component Attitude Model, Attitude – Towards - The – Ad – Model), Attitude Formation.

UNIT 3: CONSUMER IN THEIR SOCIAL & CULTURAL SETTING:

Culture: Introduction, How Cultures are learned, Measurement of Culture. Social: Introduction, Different Social classes in India, Measurement of Culture. Situational: Introduction, Types of Situations (Purchase, Consumption, Communication), Situational influences on Consumer Behaviour.

UNIT 4: CONSUMER DECISION MAKING PROCESS & CURRENT & RELATED ISSUES:

Introduction, Levels, Model of Consumer Decision Making, Gifting Behaviour, Post Purchase Behaviour.

Organisational Buying Behaviour: Introduction, Organisational Buyer Characteristics, Process; Consumerism; e-Commerce & Consumer Behaviour.

SUGGESTED BOOKS:

1. Consumer Behaviour Schiffman and Kanuk PHI
2. Consumer Behaviour and Marketing Action Henry Assael Cengage Learning
3. Consumer Behaviour in Indian Context P.C.Jain and Monika Bhatt S.Chand
4. Consumer Behaviour-Text & Cases Satish K. Batra & S. H. H. Kazmi Excel Books

SEMESTER V (Marketing - Major)

Paper Code: BS209C

Paper Name: Advertising & Sales Promotion

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective for this course to examine the importance of market segmentation, position and action objectives to the development of an advertising and sales promotion program and to develop creative strategies for advertising, plan media strategy, scheduling, and vehicle selection and to assess strategic uses of sales promotions.

ADVERTISING

Unit 1: Introduction, Nature and Importance, Different Advertising Functions, Types of Advertising, Economic Aspects of Advertising, Legal and Ethical Aspects of Advertising, Criticism of Advertising, Setting Advertising Objectives and Budget. Advertising and Communication (Communication Model – Basic and Advertising Communication Model), Role of Source, Encoding & Decoding of Messages, Media, Audience, Feedback, Noise.

Creative aspects of Advertising: Introduction, The Planning and Managing Creative Strategy, Copy (Concept, How to Write Copy for Print and Broadcast Media), Advertising Appeals, Layout Planning.

Unit 2: Advertising Media and Planning: Introduction, Different Types of Media, Media Planning and Scheduling, Advertising Campaign Planning.

Roles of Advertising Agency: Introduction, Types, Function, Layout, Advertising Agency and Client Relationship Impact of Advertising: Consumer Behaviour and Advertisement: Introduction, Cultural, Social and Behavioral Influence on Consumer Decision

SALES PROMOTION

Unit 3: Introduction, Concept, Nature, Function, Limitations of Sales Promotion, Reasons for Rapid Growth, Types of Sales Promotion Schemes.

Sales Promotion Objectives, Pull and Push Strategies, Sales Promotion and Consumer Behaviour: Theories (Classical Conditioning, Instrumental Conditioning, Dissonance Theory), Consumer Decision Making Related to Sales Promotion

Unit 4: Sales Promotion Design: Promotion Choice, Approaches, Product Choice, Market Areas, Timing, Duration and Frequency; Sales Promotion Budget: Concept, Various Techniques of Fund Allocation; Characteristics Successful Sales Promotion; Sales Promotion Effectiveness Sales Promotion Schemes: Sample, Coupon, Price Off, Premium, Contests, POP, Trade Fairs and Exhibitions, Internet Promotion

SUGGESTED BOOKS:

1. Advertising Principles and Practice Wells, Moriarty, Burnett Pearson Publication
2. Advertising Management Jethwaney and Jain Oxford University Press
3. Advertising and Sales Promotion Kazmi and Batra Excel Books
4. Advertising and Promotion Belch and Belch Tata McGraw Hill

SEMESTER V (Marketing - Major)

Paper Code: BS210C

Paper Name: Marketing Research

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: Upon successful completion, students will have the knowledge and skills to: Identify marketing problem(s) to assist in decision making, choose the appropriate methodologies to acquire evidence in an ethical manner to address the marketing problem. Retrieve primary and secondary data to solve the marketing problem.

Unit 1: MARKETING RESEARCH FUNDAMENTALS:

Introduction to Marketing Research, Overview of Research, Application and Limitations Marketing Research, Threats of Marketing Research, Marketing Information System, Marketing Decision Support System

Unit 2: MARKETING RESEARCH MANAGEMENT:

Importance of Research Management, Qualities of a Marketing Research Manager, Organizing Marketing Research Function, Evaluation and Control of Marketing Research, Market Research versus Marketing Research, Marketing Research and Marketing Management

Unit 3: DATA COLLECTION, SAMPLING DATA PROCESSING, RESEARCH ANALYSIS AND REPORTING:

- a. Primary Data,** Collection of Primary Data (Observation, Methods of Observation, Questionnaire, Designing questionnaire, Choice of Survey Method)
- b. Secondary Data** (Basic details related to Secondary Data, Sources of Secondary Data)
- c. Sampling Designs** (Some Basic Terms, Advantages & Limitations of Sampling. The Sampling Process, Types of Sample Design, Characteristics of a Good Sample Design)
- d. Interviewing:** Conditions for a successful Interview, Selection for Interviewers, Training of Interviewers, Qualitative Research
- e. Data Processing, Data Analysis** – Measures of Central Tendency, Testing of Hypothesis

Unit 4: SELECTED APPLICATIONS OF MARKETING RESEARCH:

- a. Sales Analysis and Forecasting:** Sales Analysis, the Concept of Market Potentials, Methods of Estimating Current Demand
- b. New Product Development and Test Marketing:** New Product Development, Process and Test Marketing
- c. Advertising Research:** Importance of Advertising, Need for Advertising Research

SUGGESTED BOOKS:

1. Marketing Research G. C. Berry Tata McGraw Hill
2. Marketing Research Luck, D. J. & Rubin, R. S. Prentice Hall
3. Marketing Research Naresh K. Malhotra Prentice Hal

SEMESTER V (Marketing - Major)

Paper Code: BS211C

Paper Name: Retail Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective for this course is:

- to familiarize the students with retail management concepts and operations.
- to explain the understanding of retail management and types of retailers
- To discuss an understanding of retail management terminology including merchandize management, store management and retail strategy
- To acquaint the students with legal and ethical aspects of retail management
- To create awareness about emerging trends in retail management

UNIT 1: INTRODUCTION TO RETAILING:

Definition, an overview of Indian Retail Industry, Global Concept, Functions performed by the Retailers, Changing Retail Land space, Growth of Retail in India, Opportunities & Challenges ahead.

Evolution of Retail Formats, Theories of Retail Development, Retail Lifecycle, Classification of Retail Stores, Franchising – A dynamic Retail opportunity

UNIT 2: RETAIL STORE LOCATION, STORE LAYOUT, DESIGN AND VISUAL MERCHANDISING:

Importance of Store Locations, Types of Locations, Steps in choosing a Retail Location, Legal considerations in Location Decisions, Trade Area Analysis.

Importance of Store design, Objectives of Store design, Store Layouts, Space Management, Visual Merchandising, Atmospherics, and Website Design Considerations.

UNIT 3: RETAIL MERCHANDISING AND MERCHANDISE BUYING:

Definition, Evolution, Factors affecting Merchandising function, Functions of Merchandise Manager, Functions of a Buyer, Merchandise Planning. Merchandise Buying process, Branding strategies, Category Management.

UNIT 4: RETAIL PRICING & MERCHANDISE PERFORMANCE:

Considerations in setting Retail Price, developing a Pricing Strategy, Price Adjustments, Pricing to increase sales, Analyzing Merchandise Performance, Gross Margin Return on Investment

SUGGESTED BOOKS:

1. Retailing Management Michael Levy, Barton A Weitz, Ajay Pandit The McGraw Hill
2. Retailing Management – Text & Cases Swapna Pradhan Tata McGraw Hill
3. Retail Management – A Strategic Approach Barry Berman, Joel R. Evans Pearson Education

SEMESTER V (Marketing - Minor)

Paper Code: BS248M

Paper Name: E-Commerce Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course explores the intersection of electronic commerce and marketing strategies. Students will develop an understanding of how businesses leverage digital platforms to enhance marketing efforts, build online presence, and drive sales. The course covers various aspects of e-commerce, including online consumer behavior, digital marketing strategies, e-commerce technologies, and ethical considerations.

Unit 1: Introduction to E-commerce in Marketing: Overview of e-commerce and its evolution, The role of e-commerce in modern marketing, Benefits and challenges of e-commerce in marketing.

Online Consumer Behavior: Understanding online consumer psychology, Factors influencing online purchasing decisions, The customer journey in the digital age

Unit 2: E-commerce Content Strategy: Content marketing and storytelling in e-commerce, Creating compelling product descriptions and visuals, User-generated content and reviews

Unit 3: E-commerce Technologies and Platforms: E-commerce platforms and content management systems (CMS), Payment gateways and security considerations, Mobile commerce (m-commerce) and emerging technologies

Cross-border E-commerce and Global Marketing: Expanding reach through international e-commerce, Cultural considerations and localization, Logistical challenges in global e-commerce.

Unit 4: Legal and Ethical Issues in E-commerce Marketing and Future Trends in E-commerce and Marketing: Privacy and data protection in e-commerce, Online advertising regulations and disclosures.

Future Trends in E-commerce and Marketing: Emerging technologies and their impact, Sustainability and ethical e-commerce practices, Anticipating shifts in consumer behavior and market dynamics.

SUGGESTED BOOKS:

1. E-commerce 2020: Business, Technology, Society by Kenneth C. Laudon and Carol Traver, Publisher: Pearson
2. E-commerce: Business, Technology, Society" by Paul T. Kidd and Michael P. Papazoglou by Paul T. Kidd, Michael P. Papazoglou, Publisher: Wiley
3. E-commerce: A Managerial and Social Networks Perspective" by Efraim Turban, Jon Outland, David King, and Jae Kyu Lee by Efraim Turban, Jon Outland, David King, Jae Kyu Lee, Publisher: Springer

SEMESTER V (Finance - Major)

Paper Code: BS212C

Paper Name: Financial Statement Analysis – I

Total Credit: 4 (L-T-P = 3-1-0)

Course Objectives: Students will be able to understand

1. What they can learn by analyzing a firm's financial statements.
2. Use common size financial statements as a tool of financial analysis.
3. Calculate and use a comprehensive set of financial ratios to evaluate a company's performance.
4. Select an appropriate benchmark for use in performing a financial ratio analysis.
5. Describe the limitations of financial ratio analysis

Unit - I.

Nature and Components of Financial Statement; Meaning and need for Financial Statement Analysis (FSA), Traditional and Modern Approaches to FSA, Parties interested in FSA, Limitations of Financial Statements

Unit - II.

Understanding Auditors Report and other sources of information of financial information, Understanding Accounting Equation, Understanding Relationship between constituents of Financial Statements, Understanding the Structure of Financial Statements

Unit - III.

Inventories, Depreciation, EPS, Intangible Assets, Valuation of Inventories, Methods of Depreciation, Earnings per Share, Intangible assets, Deferred Taxes.

Unit - IV.

Income Analysis, Expenses Analysis, Comparative Statements, Common Size Statements, Trend Analysis.

SUGGESTED BOOKS:

1. Financial Statement Analysis, S.K.Paul, New Central Book Agency
2. Financial Statement Analysis, G. Foster, PHI
3. Financial Statement Analysis and reporting, K.Gupta and R.K.Sharma, Kalyani Publishers.
4. Students guide to Accounting Standards, R.S.Rawat , Taxmann Publication.

SEMESTER V (Finance - Major)

Paper Code: BS213C

Paper Name: Business Taxation

Total Credit: 4 (L-T-P = 3-1-0)

Course Objectives: Students would be able to understand

1. Concepts and importance of direct tax and indirect Tax (GST)
2. Students would determine the residential status of an individual and scope of total income.
3. Students would compute income from business/profession and basics of GST.

UNIT I:

Basic Concept and Definitions: Meaning and purpose of Income Tax; Nature of Income Tax; Assesses; Person; Assessment Year; Previous Year; Sources of Income; Heads of Income; Earned Income; Unearned Income; Gross Total Income; Total Income; Tax Evasion; Tax Avoidance; Rebate Relief.

UNIT 2:

Residential Status, Tax incidence and Exempted Income: Residential status of all persons except company; Incidence of Tax; Exempted Income [U/S 10(11), 10(12), 10(11A), 10(12A),10(13A),10(23B),10(23AAB), 10(23D), 10(25)].

UNIT 3:

Profits and Gains of Business or Profession including Depreciation: Meaning of Business and Profession; Depreciation of Block of Assets as per IT rules; Computation of Business Income; Computation of Professional Income; Valuation of stock.

UNIT 4:

Introduction to Goods and Service Tax: Meaning of GST; Advantages and limitation of VAT-GST as preferred tax structure; salient features of GST model; Major advantages of IGST Model; Interstate Goods and Service Tax with illustration.

Note: The assessment year immediately prior to the current assessment year will be considered (e.g., If the examination is held on 2019-20, the assessment year to be considered for the purpose is 2018-19).

SUGGESTED BOOKS:

1. Direct Tax & Law, Singhanian and Singhanian, Taxman.
2. Direct and Indirect Taxes, S.K.Roy, ABS publishing House.
3. GST Ready Reckoner, V.S. Datey, Taxman's.

SEMESTER V (Finance - Major)

Paper Code: BS214C

Paper Name: Advanced Management Accounting

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: On successful completion of this module, the learner will be able to:

1. Critically evaluate the impact of financial decisions on the strategic direction of the organisation
2. Identify and evaluate the exposure of a company to financial risk and the techniques required to manage this risk
3. Explain alternative sources of finance and investment opportunities and their suitability in particular circumstances
4. Evaluate complex investment appraisal situations and appreciate the importance of the cost of capital to the organisation and how the capital structure chosen will impact upon this.

Unit-I

MARGINAL COSTING: Definition, Assumptions and Uses, CVP /BEP Analysis, Key factors and Safety Margin, Managerial Decision-Making Areas – Product Mix, Make or Buy, Pricing Decisions.

Unit-II

ACCOUNTING FOR OVERHEADS: Meaning of overhead costs, importance of overhead costing, overhead: classification; absorption of Overhead; under and over absorption of Overhead.

Unit-III

ACTIVITY-BASED COSTING(ABC): Meaning, feature and importance of ABC, Various term used in ABC system, Advantages and disadvantages of ABC, Technique of ABC.

Unit-IV

TRANSFER PRICING:

Concept, Nature and Techniques, Divisional performance and problem of Goal congruence, determination of inter-departmental or inter-company transfer price.

SUGGESTED BOOKS:

1. Management Accounting, P. Shah, Oxford University Press
2. Advanced Cost Accounting, S.P Jain, Narang, Aggarwal, Kalyani Publisher.
3. Management Accounting: Principles & Practice, 3rd Edition, M.A. Sahaf, Vikas Publishing House.
4. Management Accounting, Parashar Banerjee , Palmview Publishing LLP.
5. Advanced Financial Management, Dr. S.P. Gupta , Sahitya Bhawan Publications.

SEMESTER V (Finance - Major)

Paper Code: BS215C

Paper Name: Insurance Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcomes: Students will be able to

1. Apply the knowledge of current information, models, and techniques and practices in all of the major business disciplines.
2. Compare various kinds of insurance plans as well as the importance of contract in Customers.
3. Create valuable insights into overview of Life Insurance and General Insurance Products

Unit-I

NATURE, SCOPE AND TYPE: Meaning, origin and development, essential elements, nature, functions and importance, Classification and scope of life, fire, marine, motor and other insurances.

Unit-II

INDIAN INSURANCE MARKET: Insurance organizations in public and private sectors, organization structure of LIC, GIC, Insurance ombudsman.

Unit-III

INSURANCE INTERMEDIARIES: Insurance agent – procedure for becoming insurance agent- rights, termination of an insurance agent essentials for successful insurance salesman- surveyor and loss assessor- brokers- third party administrators, Privatization of Indian insurance sector.

Unit-IV

RISK AND FUND MANAGEMENT: Meaning, difference between risk and uncertainty, characteristics- classification of risk and risk management- corporate risk management, personal risk management; Principles of insurance contract: under insurance- over insurance, insurance fund management: significance, characteristics, process and strategies.

Unit-V

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY: Meaning, important terms, organizing body, functions of IRDA- eligibility, registration and capital requirements, recent regulations.

SUGGESTED BOOKS:

1. Insurance Management, Inderjit Singh, Rakesh Katiyal & Surjit Kaur, Kalyani Publishers
2. Insurance: Theory and Practice, Pal Prabir, Tripathy & Nalini Prava, PHI
3. Fundamentals of Insurance, P.K Gupta, Himalaya Publishing House

SEMESTER V (Finance - Minor)

Paper Code: BS249M

Paper Name: Indian Financial System

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This Subjects gives overview of financial system to students such as flow of funds in financial system, financial system and economic development. Students learn different financial system and their framework. Students studies non-banking financial institutions, their role in financial system, sources of finance and RBI guidelines.

Unit-I

INDIAN FINANCIAL SYSTEM: Meaning, nature and functions of financial system, Structure of Indian financial system, Components of Indian financial system

Unit-II

BASICS OF MONEY MARKET: Meaning and Feature of money market, Participants in money market operations, Function of money market, Money market instruments: C-Paper, T-Bill, C-Deposits.

Unit-III

BASICS OF CAPITAL MARKET: Meaning and feature and function of capital market, Instruments of capital market, Types of capital market and issue procedure, Stock exchange operations in India, Currents issues.

Unit-IV

REGULATORS OF FINANCIAL MARKETS: Role of RBI in promoting money market, Current scenario and issues. Role of SEBI in promoting capital market and protecting the interests of investors, Current issues.

BASICS OF MUTUAL FUNDS OPERATIONS (MF): Meaning, feature and importance of mutual funds, Organisation structure of mutual fund, Classification of mutual funds, Mutual fund operations in India, Current issues.

SUGGESTED BOOKS:

1. Indian Financial System, M. Y. Khan, Tata McGraw Hill
2. The Indian Financial System, Bharti V. Pathak, Pearson Education
3. Financial Institutions and Markets, Meir Kohn, Oxford University Press
4. Chanakya Niti - A Perspective to Investing in Shares, B L Mittal Ravi Kant Sharma, Taxmann Publication.

SEMESTER V (HRM - Major)

Paper Code: BS216C

Paper Name: Human Resource Planning-I

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completion of the course, students should be able to understand the importance and objectives of human resource planning, to analyze workforce requirements and to forecast future human resource needs and implement recruitment and selection processes and to develop skills in employee training, development, and succession planning.

Unit: 1

Human Resource Planning: Introduction, Definition, Objectives, Need, Importance, Barriers, Suggestions.

Strategic Human Resource Planning: Concept, Characteristics, Levels, Process, Requirements, and Benefits.

Unit: 2

Job Analysis and Design: Job Analysis – Meaning, Need, Process, Factors, Techniques of Data Collection, Uses & Limitations, Job Description & Job Specification, Job Design – Approaches, Process, Job Enrichment.

Unit: 3

Job Evolution: Concept, Objectives, Procedure, Advantages, Drawback, Methods, Essentials of successful Job Evaluation Programme.

Recruitment and Selection: Definition, Factors affecting Recruitment, Sources, Process.

Selection- Meaning, Definition, Process, Methods of Recruitment and Selection.

Unit: 4

Placement, Induction, Socialization, Dislocation, Relocation: Meaning, Definition, Different Phases, Causes, Problems, solutions in regard to dislocation and relocation. Internal Mobility and Separation: Promotion, Transfer, Demotion, Separations.

SUGGESTED BOOKS:

1. Manpower Management Dwivedi, R. S. PHI
2. Human Resource Planning D.K.Bhattacharya Excel Books

SEMESTER V (HRM - Major)

Paper Code: BS217C

Paper Name: Industrial Relations

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By the end of the course, students should be able to understand the fundamental concepts and theories of industrial relations, to analyze the role of labor laws and regulations in shaping workplace relations, to evaluate the functions and activities of trade unions and employer associations and to develop skills in conflict resolution, negotiation, and effective communication.

Unit: 1. GROWTH OF INDUSTRIAL RELATIONS IN INDIA:

Meaning, Nature, Significance, Cause and effect for poor Industrial Relations in India, Suggestions to improve I.R.

Unit: 2. INDUSTRIAL DISPUTES IN INDIA:

Meaning, forms of disputes, History of Labour disputes in India, Causes of Disputes, Results of Disputes, Trade Union and relevant Acts.

Unit: 3. NATIONAL COMMISSION ON LABOUR AND Industrial Relation Acts.

Collective Bargaining, Discipline and Disciplinary Procedure.

Trade Union Act 1926, Standing Order Act 1946, industrial Disputes Act, 1947.

Unit: 4. METHODS FOR PREVENTION AND SETTLEMENT OF I.D.:

Voluntary Level, Statutory Level, Authorities for the Settlement of I.D. Voluntary Level, Statutory Level, Authorities for the Settlement of I.D. Users Committees, Conciliation Officer, Board of Conciliation, Court of Equity, Labour Court, Industrial Tribunal and National Tribunal. Central Industrial Relations Machinery in India, Central Implementation and Evaluation Machinery, Industrial Disputes (Amendment) Bill Ramauryam Committee on I.R.

SUGGESTED BOOKS:

1. Industrial Relations A.M. Sharma Himalaya Publishing House
2. Dynamics of Industrial Relations C.B.Mamoria Himalaya Publishing House
3. Personnel Management & Industrial Relations R.S.Davar Vikas Publishing House

SEMESTER V (HRM - Major)

Paper Code: BS218C

Paper Name: Wages & Salary Administration

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course will provide an understanding of the basic logic and design characteristics of a competitively sound compensation program, to understand the concept of national income and wage fixation.

Unit 1: Wages

Concepts: Definition, Piece Rates, Cash a Kind; Salary, Earning, Compensation, Fringe Benefits, Dearness Allowance, Real Wages, Basic Wages, Labour Cost.

Unit 2: Wage Administration and National Income

Composition of Wages, Minimum Wages, Wage Structure, Wage Differentials and National Wage Structure.

Unit 3: Labour Economics and Wage Machinery

Wage Theories, Supply, Demand and Wages; Labour Institutions and their effects on National Income. Employee Role; Tribunal Wage Board, Collective Bargaining

Unit 4: Wage Fixation

Criteria of Wage Fixation, Committees on Wages (Minimum Wage, Fair Wages and Living Wages)– need based minimum Wage Formula. Productivity Cost of Living, Capacity to Pay, Wage Comparison.

SUGGESTED BOOKS:

1. Understanding Waging System A.M.Sharma Himalaya Publishing House
2. Wage and Salary Administration by Richard I. Henderson and Michael S. Broad, Prentice Hall.
3. Compensation Management and Wage Bill Control by R. Natarajan, Sultan Chand & Sons
4. Principles of Wage and Salary Administration by T.N. Chhabra and Rajender Parsad, Anmol Publications Pvt. Ltd.

SEMESTER V (HRM - Major)

Paper Code: BS219C

Paper Name: Human Resource Development - I

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By the end of the course, students should be able to understand the concepts and importance of Human Resource Development, analyze training needs and design effective training programs, implement performance appraisal and counselling. Students are able to develop skills in employee development and career planning.

Unit 1: Training & Executive Development:

Concept, Meaning, Definition, Features, Principles, Need & Importance, Methods, Evolution, Steps to Training & Development, Drawbacks, Suggestive System

Unit 2: Job Design, Career Planning and Participation & Empowerment

Job Design: Job Description, Job Specification, Approaches, Job Enrichment, Succession Planning, Individual & Organisational Career Development Steps, HRD Career Planning, Meaning, Forms, Objectives, Advantages, Evaluation, Effective WPM, Empowerment – Meaning, Process, Merits, Demerits, Requisites for the success of Empowerment.

Unit 3: Performance & Potential Appraisal:

Concept, Purpose, Factors, Process, Methods, Limitations, Essentials of good Appraisal System, Assumptions of Performance Appraisal System, Main Components, Potential Appraisal; Steps to Develop Potential Appraisal.

Unit 4: Competency Mapping and Counselling:

Introduction, Definition, Needs, Types, Applications & Uses, Benefits, Methods, Competence versus Competency; Counselling: Concept, Characteristics, Need, Functions, Types, Objectives, Conditions for Effective Counselling, Process.

SUGGESTED BOOKS:

1. Human Resource Development D.K Bhattacharya Himalaya Publishing
2. Successful Application to HRD IswarDayal New Concept
3. Management of change through HRD Maheshwari, B.L. &Sinha, Dharni P.Tata Mcgraw Hill

SEMESTER V (HRM - Minor)

Paper Code: BS250M

Paper Name: Training & Development

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The course is designed to help the student to understand the importance of manpower planning and the latest changes that have happened in Manpower Development and Planning.

Unit 1: Manpower Planning and Resourcing: Factors Affecting Manpower Planning, Need for Manpower Planning, Five Steps in Manpower Planning, Importance of Manpower Planning, obstacles in Manpower Planning.

Unit II: HRP Process: Determination of objectives, Steps of Human Resource Planning, Manpower Inventory, Demand and Supply forecasting & Gap Analysis.

Unit III: Job Analysis: Definition and Introduction; uses of Job analysis; Process of Job Analysis; Job Description; Job Specification, job enlargement, job enrichment.

Unit IV: HR Audit, Manpower Development and Planning: Concept, Objectives, Importance & Scope of HR Audit, Approaches to Human Resource Audit. Introduction of Manpower Development, Competency mapping, Knowledge management, E-Manpower Development, E-Manpower planning.

SUGGESTED BOOKS:

1. Armstrong, Michael (1988). "A Handbook of Personnel Management Practice", Prentice Hall, New Jersey.
2. Human Resource Management: Text and Cases By K. Ashwathappa, TATA McGrawHill
3. Human Resource Management By BiswajeetPattanayak, Prentice Hall ofIndia

SEMESTER VI (Marketing - Major)

Paper Code: BS220C

Paper Name: Service Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: At the end of this course, students would be able to explain the nature and scope of services marketing, will be able to explain, describe and utilize key services frameworks and concepts including the 7p's of marketing, the Gap Model, customer satisfaction, loyalty, and customer lifetime value.

UNIT 1: INTRODUCTION TO SERVICE INDUSTRY:

Concept, Nature, Types, Importance, Difference between Goods & Service, Factors responsible for growth of service sector, Service Marketing Triangle, Service Marketing Environment, Service Market Segmentation, Problem areas in Segmentation, Targeting & Positioning.

UNIT 2: UNDERSTANDING SERVICE INDUSTRY:

Current Trends in Service Industry, Customer Relationship Marketing, Service Quality: Concept, Dimensions, GAP model of service quality delivery, Measurement of service quality, Total Quality Management & Quality Circle, Consumer Behaviour: concept, models of Consumer Behaviour in Service Industry (EKB & GAP model), Customer Expectation & Perception, Factors affecting customer expectation & perception.

UNIT 3: SERVICES MARKETING MIX-I:

- a. The Service Product: Introduction, New Service Development, Service Life Cycle
- b. Pricing Strategies: Introduction, Pricing Objectives, Methods of Pricing Services
- c. Managing Distribution Channels: Introduction, Factors Affecting Choice of Distribution Channel, Managing Distribution Channels
- d. Promotional Strategies: Introduction, promotion Objectives, Promotion Planning & Strategy.

UNIT 4: SERVICES MARKETING MIX -II AND APPLICATIONS OF SERVICE MARKETING:

- a. People: Introduction, Challenges of Managing People, Measuring Productivity of people in Service Organization
- b. Physical Evidence: Introduction, Servicescape, Managing Physical Evidence
- c. Process: Introduction, Service Blueprinting, Managing Demand & Supply.

Applications of service marketing: Marketing of Financial, Hospitality, Medicare, Educational Sectors and Tourism

SUGGESTED BOOKS:

1. Service Marketing-Text and Cases Rajendra Nargundkar Tata Mcgraw Hill
2. Service Marketing Govind Apte Oxford University Press
3. Service Marketing-The Indian Perspective Ravishankar Excel Books
4. Service Marketing-Text and Cases Verma Pearson

SEMESTER VI (Marketing - Major)

5. Service Marketing S.N.Jha Himalaya Publishing

SEMESTER VI (Marketing - Major)

Paper Code: BS221C

Paper Name: Rural Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective of the course is to familiarize the students with conceptual understanding of Rural Marketing and its corresponding development practices in Indian context. This may result to acquaint the knowledge on rural demand of agricultural inputs, FMCG goods, as well as consumer and consumer durable goods in villages.

UNIT 1: RURAL MARKETING: INTRODUCTION

Defining rural markets, rural myths, The rural marketing mix: challenges, the evolving rural consumer, The evolution of rural marketing, the rural environment, the rural economic environment, the rural infrastructure, The rural Boom, The way forward, Rural Dividend Telecommunication in Rural India, Information and Telecommunication technology (ICT) in rural areas, Financial Services in Rural India, Cloud Computing for Rural banking, Rural Healthcare services.

UNIT 2: RURAL CONSUMER BEHAVIOR

The Consumer buying behaviour model, the buyer decision Process, The product adoption process.

UNIT 3: SEGMENTING AND TARGETING RURAL MARKETS

Segmentation, Targeting, Positioning.

UNIT 4: PRODUCT AND PRICING STRATEGIES FOR RURAL MARKET

The product concept and the classification of Rural Products, Product decision and strategies, Product branding in rural markets, Packaging for rural markets, Product warranty and after sales service, New product development in rural markets. Pricing for Rural India, Setting the price for rural products and services, price setting strategies.

UNIT 5: DISTRIBUTION AND COMMUNICATION STRATEGIES FOR RURAL MARKETS

Availability: The Challenge and the Dilemma, Distribution channels, the rural retail environment. Channel behaviour in rural areas. Challenges for Rural Communication, The communication process: An overview, developing effective rural Communication

SUGGESTED BOOKS:

1. Rural Marketing Pradeep Kashyap PEARSON
2. Rural Marketing (Text and Cases) C.S.J Krishnamacharyulu, Lalitha Ramakrishnan PEARSON
3. Introduction to Rural Marketing R. Krishnamurthy Himalaya Publishing House

SEMESTER VI (Marketing - Major)

Paper Code: BS222C

Paper Name: Sales Management & Personal Selling

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective of this course is to develop an effective sales compensation plan, evaluate the performance of a sales person, organize sales territories to maximize selling effectiveness. evaluate sales and sales management strategies in relation to current legal and ethical standards of practice.

UNIT 1: DEVELOPMENT & ROLE OF SELLING IN MARKETING:

Nature & Role of Selling, Characteristics of Modern Selling, Success factor for Professional Sales People, Types of Selling, Nature & Role of Sales Management, Relationship between Sales & Marketing. Environmental & Managerial Force Imparting Sales, Sales Channel, Selling for Resale, Selling Services, Sales Promotion, Exhibitions, Public Relations

UNIT 2: SALES RESPONSIBILITIES & PERSONAL SELLING SKILLS:

Prospecting, Database & Knowledge Management, Self-Management, Handling Complaints, Providing Service, Sales Preparation. The Opening, Needs & Problem Identification, Presentation & Demonstration, Dealing Objection, Negotiation, Closing Sales, Follow-up.

UNIT 3: SALES FORCE MANAGEMENT:

Organization for Recruitment & Selection, Sources of Sales Force Recruits, Pre-Interview Screening, Formal Application Form, The Interview, Supplementary Selection Aids. Motivation, Leadership, Training, Conclusions, Designing Sales Compensation Plan, Types of Compensation Plans, Fringe Benefits.

UNIT 4: SALES QUOTAS AND SALES FORCE EVALUATION:

Objectives in using Quotas, Types of Sales Quota & Procedure for Quota Setting, Administering the Quota Systems.

Sales Force Evaluation Process, Purpose of Evaluation, Setting Performance Standards, Gathering Information, Measures of Performance, Appraisal Interviewing.

SUGGESTED BOOKS:

1. Selling & Sales Management David Jobber, Geoffrey Lancaster Pearson Education
2. Sales & Distribution Management - An Indian Perspective Pingali Venugopal Response Sage Publications Ltd
3. Sales Management Decisions, Strategies & Cases Richard R. Still, Adward W. Cundiff, Norman A. P. Govoni Prentice Hall

SEMESTER VI (Marketing - Major)

Paper Code: BS223C

Paper Name: Product & Brand Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After the completion of the course the students will be able to examine the brand concepts in real-life setting by articulating the context and the rationale for the application. The course will help students understand how a new product is developed and maintained. Enhance students' ability to apply creative and critical strategies and tactics involved in developing, positioning, leveraging, managing a brand, and measuring its value. Apply branding principles and marketing communication concepts and frameworks to achieve brand management goals and improve marketing performance.

Unit 1: Basics of Product Management: Introduction, Product Planning and Development, PLC Theory- Product vs Brand, Product Portfolio Analysis - Mapping - Understanding Company Product/Brands and Competitive Brand Market Position,

Unit 2: Product Market Analysis, Concept of Brand and its Relevance in Business Scenario:
Product Market Analysis: Product Market Orientation, Challenges faced by Companies during the branding phases

Concept of Brand and its Relevance in Business Scenario: Why Brand? What does Brand Building involve? Identification of opportunity for branding and Brand Management Process, Why Does Brand Wither?

Unit 3: Brand Positioning and Repositioning: Sustaining a brand long-term, branding at different stages of market – evolution – The scope for branding, the role of branding and branding strategies needed at different stages in the evolution of the market, Brand Architecture

Unit 4: Strategic Brand Management Process and Managing Brand Equity:

Strategic Brand Management Process: Handling a Large Portfolio, Multi-Brand Portfolio. Brand Hierarchy, Revitalizing brands: Re-launch, Rejuvenation, when brand is dying or stagnating, or when the market is dying or stagnating

Managing Brand Equity: What it means: how to build it; Choosing brand elements to build brand equity – Customer Based Brand Equity (CBBE) – Understanding and measuring brand equity, Monitoring brands, Sources of brand equity (Brand Awareness, Brand personality, Brand loyalty, perceived quality, Brand Associations)

SUGGESTED BOOKS:

1. Product Strategy and Management, Michael Baker and Susan Hart, Pearson Education, Second Edition.
2. Strategic Brand Management, Kevin Lane Keller, M.G. Rameswaram and Isaac Jacob, Pearson Education, Third Edition.
3. Product Management, Donald R. Lehmann and Russell S. Winer, Fourth Edition, TMH
2. Innovation Management and New Product Development, Paul Trott, Fourth Edition, Pearson
3. Strategic Brand Management, Kapferer, J.-N. (1997). London: Kogan Page Limited
4. Building Brand Value: Five Steps of Building Powerful Brands, M. G.Pameswaran, 2006, New Delhi: Tata McGraw Hill
5. Brand Management, H. V. Verma, 2004, New Delhi: Excel Books

SEMESTER VI (Marketing - Minor)

Paper Code: BS251M

Paper Name: Marketing Communication

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completing this course, students will be able to Quickly understand a company and its marketing communications activities. Present a brief verbal presentation. Thoroughly describe a range of media and methods available to marketers. Develop a clearly thought-out Communications Audit.

Unit 1: Introduction to Marketing Communication & Consumer Behavior and Audience Analysis:

Overview of marketing communication concepts and strategies Role of marketing communication in building brand value

Consumer Behavior and Audience Analysis: Understanding consumer motivations and behaviors Identifying target audiences and creating audience personas

Unit 2: Integrated Marketing Communication (IMC): The concept of IMC and its benefits, coordinating messaging across various communication channels, Message Development and Content Strategy: Crafting effective marketing messages, Developing content strategies for different platforms

Unit 3: Advertising and Public Relations: Principles of advertising and types of advertising campaigns the role of public relations in shaping brand perception, Digital Marketing and social media: Using digital platforms for marketing communication Social media strategies and influencer marketing, Direct Marketing and Personal Selling: Direct marketing techniques (email, SMS, direct mail) Personal selling and its importance in B2B communication

Unit 4: Branding and Visual Identity: Importance of branding in marketing communication, Creating and maintaining consistent visual identities, Creative Design and Copywriting: Principles of creative design for marketing materials Writing persuasive and engaging copy, Ethical Considerations in Marketing Communication: Ethical issues in advertising and communication and guidelines for marketing practices

SUGGESTED BOOKS:

1. Marketing Communications 4th Edition by P R Smith Jonathan Taylor, Kogan Page India Private Limited
2. INTEGRATED MARKETING COMMUNICATIONS by Kirti Datta Oxford University Press.
3. Integrated Marketing Communication: Pentacom by Malaval Et Al, Pearson India.

SEMESTER VI (Finance - Major)

Paper Code: BS224C

Paper Name: Financial Statement Analysis - II

Total Credit: 4 (L-T-P = 3-1-0)

Course Objectives: Students will be able to understand

1. What they can learn by analyzing a firm's financial statements.
2. Use common size financial statements as a tool of financial analysis.
3. Calculate and use a comprehensive set of financial ratios to evaluate a company's performance.
4. Select an appropriate benchmark for use in performing a financial ratio analysis.
5. Describe the limitations of financial ratio analysis

Unit-I

Funds Flow Analysis: Different concepts of Fund, whether Depreciation is a Source of Funds or not, Preparation and Interpretation; Cash Flow Analysis: Meaning, Objectives, Merits and Limitations, Preparation and Interpretation of Cash Flow Statements (as per AS-3).

Unit-II

Introduction to Funds Flow Statement, Calculating Funds from Operation, Analysis of Funds flow Statement, Importance of Funds Flow Analysis

Introduction to Cash Flow Statement, Calculating Operation / Financing and Investing Cash Flows, Analysis of Cash flow Statement, Importance of Cash Flow Analysis.

Unit-III

Introduction to Ratio Analysis, Importance of Ratio Analysis, Understanding Liquidity / Leverage & Coverage / Turnover / Expense and Profitability ratios, using ratios to analyse the financial performance of a company.

Unit-IV

Understanding Annual Report of a Company; Director's Report, Management Discussion and Analysis, Notes to Account.

ACCOUNTING STANDARDS: - Meaning, Objectives, Merits and Limitations, Different Accounting Standards- Disclosure of Accounting Policies (AS-1), Related Party Disclosure (AS-18), Earnings Per Share (AS-20), Interim Financial Reporting (AS-25), Intangible Assets (AS26).

SUGGESTED BOOKS:

1. Financial Statement Analysis & Reporting Shashi K. Gupta and R. K. Sharma Kalyani Publishers
2. Student's Guide to Accounting Standards R. S. Rawat Taxman

SEMESTER VI (Finance - Major)

Paper Code: BS225C

Paper Name: International Business Finance

Total Credit: 4 (L-T-P = 3-1-0)

Course Objectives: Students will understand the ethical implication of business decision making and recognize ethical dilemmas. Students will demonstrate the ability to communicate effectively. Students will demonstrate critical thinking skills. Students will understand global perspectives.

Unit-I

INTERNATIONAL FINANCIAL ENVIRONMENT: Evolution of the International Financial System, The Gold Standard, The Bretton Wood System and the IMF, The World Bank, WTO, Euro Bonds, Recent Pattern of International Banking Activities, Balance of Payment

Unit-II

FOREIGN EXCHANGE RISK MANAGEMENT: Exchange Rate, Interest Rate, Inflation Rate and Exposure, Nature & Exposure of Risk, Exchange Rate and Interest Rate Volatility, Problems.

Unit-III

THEORIES ON EXCHANGE RATE MOVEMENTS: Purchasing Power Parity, Fischer effect, International Fischer Effect.

GLOBAL FINANCIAL MARKETS AND INTEREST RATES: The Global Financial Markets, Domestic & Offshore Markets, Euro Markets.

Unit-IV

FOREIGN EXCHANGE MARKET: Structure, Types of Transaction and Settlements Rates, Exchange Rate Quotation, Forward Quotation, Exchange Rate Regimes and Foreign Exchange Market in India

SUGGESTED BOOKS:

1. International Financial Management Madhu Viz Excel Books
2. International Financial Management V.K. Bhalla Anmol Publications
3. International Financial Management H.R.Machiraju Himalaya Publications
4. International Financial Management V.A. Avdhani Himalaya Publications
5. International Financial Management Shashi K. Gupta & Praneet Rangi Kalyani Publishers

SEMESTER VI (Finance - Major)

Paper Code: BS226C

Paper Name: Working Capital Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Objectives: The primary objective of working capital management is to ensure a smooth operating cycle of the business. Secondary objectives are to optimize the level of working capital and minimize the cost of such funds.

UNIT – I

PRINCIPLES OF WORKING CAPITAL: Introduction to Working capital, Concept of Working Capital, Factors affecting working capital requirement, Estimation of working capital requirements, Sources of working Capital.

UNIT – II

RECEIVABLES MANAGEMENT: Meaning and nature of Receivable, benefits of Receivable, factors affecting investment in Receivable, scope of Receivable Management, credit policy, control of receivable.

UNIT – III

INVENTORY MANAGEMENT: Nature of Inventories, Need to hold inventories, objectives of inventory management, inventory Management techniques, inventory management process.

UNIT – IV

CASH MANAGEMENT: Facets of Cash Management, Motive for holding cash, managing cash collection and disbursements, investing surplus, cash in marketable securities, cash budgeting.

SUGGESTED BOOKS:

1. Hrishikes Battacharya Working Capital Management strategies and Techniques prentice hall of India 2001.
2. Joshi R.N. Cash Management, New Age International Publishers 1999.
3. Chitnis, K.M. Working Capital Management of large Industrial units, Dastane Ramachandra and company Poona.
4. Skipper & Kwon. 2008. Risk Management and Insurance Perspectives in Global Economy. Wiley India Pvt Ltd.
5. Vaughan. Essentials of Insurance: A Risk Management Perspective. Wiley India Pvt Ltd.
6. Gurusamy. Banking Theory Law & Practice Tata McGraw-Hill Publishing company Ltd.

SEMESTER VI (Finance - Major)

Paper Code: BS227C

Paper Name: Security & Portfolio Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: At the end of this course students should be able to:

- Provide a theoretical and practical background in the field of investments.
- Design and manage the bond as well as equity portfolios in the real world.
- Value equity and debt instruments.
- Measure the portfolio performances.

Unit I:

Nature and Scope of Investment Management and Portfolio Analysis: Overview Basics of stock markets. Investment versus Speculation, Investment Alternatives and Their Evaluation, Financial Markets, Portfolio Management Process, Approaches to Investment Decision Making, Common Errors in Investment Management, and Qualities of Successful Investing. Role of Portfolio Management.

Unit II:

Basic Concepts and Methods Risk and Return – Measuring Historical Return, Measuring Historical Risk, Measuring Expected (Ex Ante) Return and Risk. Fundamental Analysis: Economic Analysis, Industry Analysis.

Unit III:

Modern Portfolio Theory Portfolio Theory: The Benefits of Diversification, Diversification and Portfolio Risk, Portfolio Return and Risk, Capital Asset Pricing Model – Assumptions – Inputs Required for Applying CAPM, The Capital Market Line – Security Market Line, Pricing of Securities with CAPM.

Unit IV:

Equity Valuation Equity Valuation: Balance Sheet Techniques- Book value, Liquidation value, Replacement cost. Discounted Cash Flow Techniques: Dividend discount model, Free cash flow model.

Unit V:

Portfolio Management: Specification of Investment Objectives and Constraints, Selection of Asset Mix, Formulation of Portfolio Strategy, Selection of Securities, Portfolio Execution, Portfolio Revision, Performance Evaluation.

SUGGESTED BOOKS:

1. Investment Analysis and Portfolio Management by Prasanna Chandra
2. Investments by Zvi Bodie, Alex Kane, Alan Marcus and Pitabas Mohanty
3. Security Analysis and Portfolio Management by Donald Fisher and Ronald Jordan
4. Investment Analysis and Portfolio Management by Reilly and Brown, Cengage Learning, India Ed.

SEMESTER VI (Finance - Minor)

Paper Code: BS252M

Paper Name: Banking Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The course will help students:

- To acquire knowledge of working of Indian Banking system.
- The impact of government policy and regulations on the banking industry.
- Financial statements and performance of banks.
- Banking lending policies and procedures.

Unit-I:

Introduction: Bank –Meaning, Definition, Classification, types of banks –commercial banks- Universal Banking - Central Bank - Credit control measures - EXIM Bank - Deposit Insurance and Credit Guarantee Corporation.

Unit-II

Commercial Banking – Functions – Accepting Deposits – Lending of Funds. Banking Regulation Act, 1949 – Role of RBI and their functions.

Rural Banking-Concept of Rural banking – Need for Rural Banking – Priority Sector Lending: Terms and conditions, Cooperative Banking, Regional Rural Banks (RRBs)

Unit-III

Banker and Customer Relationships- Banker - Customer - General and Special relationship between Banker and Customer - Opening of Current - Saving - Recurring - Fixed deposit Accounts - Special types of Accounts - Minor - Lunatic - Partnership Firm - Joint Stock Company -: Non - Trading Institutions.

Unit-IV

Banking Functions: Debit Card and Credit Card, Fund Management, Deposits and Liquidity Management, Management of Bank Loans, Non-Performing Assets (NPA)

SUGGESTED BOOKS:

1. Bank Management Vasant Desai Himalaya Publishing
2. Indian Banking S.Natatrajan & R. Parneswaram S.Chand & Sons

SEMESTER VI (HRM - Major)

Paper Code: BS228C

Paper Name: Labour Law

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completion of the course, students should be able to understand the key labor laws and regulations applicable to the workplace, to analyze the rights and responsibilities of employers and employees, to apply labor laws to real-world workplace scenarios and to develop skills in managing labor relations and ensuring legal compliance.

Unit 1: Introduction to Labour Legislation:

- a. Philosophy of Labour Law
- b. Labour Laws – Concept, Origin, Objectives
- c. International Labour Organisation
- d. Indian Constitution & Labour Legislation

Unit 2: The Factories Act 1948 & Industrial Dispute Act 1947

Unit 3: Shops and Establishment Act and Employee's Provident Fund

Unit 4: The Employee's State Insurance Act 1948, and Miscellaneous Provisions Act 1952

SUGGESTED BOOKS:

1. Handbook of Industrial Law Dr. N. D. Kapoor Sultan Chand & Sons
2. Industrial & Labour Law S. N. Mishra
3. Industrial Laws (Bare Acts) Taxmann Publication
4. Industrial Relations & Labour Laws B. D. Singh

SEMESTER VI (HRM - Major)

Paper Code: BS229C

Paper Name: Strategic Human Resource Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completion of the course the students are able to understand the issues related to strategic human resource management and the students can develop the skills to think strategically and integrate the activities of HR with the organization's goals.

Unit 1: Introduction to Strategic HRM

An Investment Perspective of Human Resource Management, Introduction to business and corporate strategies - Integrating HR strategies with business strategies— Human Resource Environment, Technology and structure – Management Trends- Demographic trends – Trends in the utilization of human resources.

Unit 2: Integrating Strategy and Human Resource Planning

The strategic role of Human Resource Planning, selecting forecasting techniques, forecasting the supply of human resources, forecasting the demand for human resources, workforce utilization and employment practices.

Unit 3: Strategy for Employee Development and Employee Separation – Planning and strategizing training- Integrating training with performance management systems and compensation- Developing management training and development for competitive advantage- The strategic training of employee's model.

Employee separation – Reductions in workforce, Lay off, Downsizing, -Strategies for responsible restructuring, Strategic management of turnover and retention, Retirement, Global HRM – Strategic HR Issues in global assignments

Unit 4: Performance Management

Strategically oriented performance measurement systems, strategically oriented compensation systems High performance practices, Human resource evaluation – Strategic choices in performance management systems.

SUGGESTED BOOKS:

1. Strategic Human Resource management, Das Pulak, Cengage Learning
2. Strategic Human resource management, Charles R. Greer, Pearson
3. Strategic HRM, Jaffrey A Mello, Cengage Learning

SEMESTER VI (HRM - Major)

Paper Code: BS230C

Paper Name: Human Resource Planning – II

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completion of the course the students are able to understand the concept of job design and career planning, approaches of job design, executive development and employee counselling.

Unit 1: Training & Executive Development:

Concept, Meaning, Definition, Features, Principles, Need & Importance, Methods, Evolution, Steps to Training & Development, Drawbacks, Suggestive System.

Unit 2: Job Design and Career Planning:

Job Design: Job Description, Job Specification, Approaches, Job Enrichment, Succession Planning, Individual & Organizational, Career Development Steps, HRD & Career Planning.

Unit 3: Performance & Potential Appraisal:

Concept, Purpose, Factors, Process, Methods, Limitations, Essentials of good Appraisal System, Assumptions of Performance Appraisal System, Main Components, Potential Appraisal; Steps to Develop Potential Appraisal.

Unit 4: Competency Mapping and Counselling:

Introduction, Definition, Needs, Types, Applications & Uses, Benefits, Methods, Competence versus Competency; Counselling: Concept, Characteristics, Need, Functions, Types, Objectives, Conditions for Effective Counselling, Process.

SUGGESTED BOOKS:

1. Manpower Management Dwivedi, R. S. PHI
2. Human Resource Planning D.K.Bhattacharya Excel Books

SEMESTER VI (HRM - Major)

Paper Code: BS231C

Paper Name: Human Resource Development - II

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By the end of the course, students should be able to analyze advanced concepts and trends in HRD to develop and implement effective employee development programs, to apply advanced performance management strategies and to design and evaluate organizational learning initiatives.

Unit 1: Employee Engagement and Motivation: Link between HRD and employee engagement, strategies for motivating and engaging employees, promoting a positive and inclusive work environment.

Unit 2: Talent Management and Succession Planning: Identifying and nurturing talent within organizations, succession planning and leadership development, role of HRD in talent pipeline creation.

Unit 3: Organizational Learning and Knowledge Management: Creating a learning culture and knowledge-sharing, capturing and disseminating organizational knowledge, promoting continuous learning and innovation.

Unit 4: Ethical Considerations in HRD: Ethical issues in employee development, confidentiality, fairness, and equal opportunity, balancing organizational and individual needs

SUGGESTED BOOKS:

1. Human Resource Development: A Strategic Approach by Pradip Kumar Bhaumik
Publisher: McGraw Hill Education
2. Human Resource Development: Process, Practices and Perspectives by R S Dwivedi
Publisher: Excel Books
3. Human Resource Development: Strategies and Practices by Srinivas R. Kandula and Meena Surie Wilson
Publisher: Sage Publications
4. Human Resource Development: A Strategic Approach by Pradip Kumar Bhaumik
Publisher: McGraw Hill Education
5. Human Resource Development: Process, Practices and Perspectives by R S Dwivedi
Publisher: Excel Books
6. Human Resource Development: Strategies and Practices by Srinivas R. Kandula and Meena Surie Wilson
Publisher: Sage Publications

SEMESTER VI (HRM - Minor)

Paper Code: BS253M

Paper Name: Performance Appraisal & Compensation Management **Total Credit:** 4 (L-T-P = 3-1-0)

Course Outcome: Students will be able to apply the concept of performance appraisal and compensation management practically. Students will be able to understand the various dimensions of Compensation Management and the role of various bodies involved in Compensation Management.

Unit 1

Performance appraisal and performance management, Performance Management – Definition, Objectives, Need and Measurement. Concept and Objectives of performance management system,

Unit 2

Process of performance appraisal, issues and challenges in performance appraisal, documentation of performance appraisal, Methods of Performance appraisal – traditional methods, modern methods with advantages and disadvantages of each - appraisal interviews, performance feedback and counseling, Ethical perspectives in performance appraisal.

Unit 3

Compensation – Definition, Classification and Types. Components of remuneration- Basis pay, Dearness Allowance, flat and indexed DA, allowances and reimbursement, Determining Compensation, Compensation Approaches. Compensation as a Retention Strategy, Financial and non-financial compensation

Unit 4

Performance Based Pay Systems, Incentives - incentive plans, developing effective incentive plans. Gain Sharing Incentive Plan – Enterprise Incentive Plan – Profit Sharing Plan- ESOPs – Compensation Management in Multi-National organizations.

Reward systems, Perceptions of Pay Fairness – the legal environment, Legal Constraints on Pay Systems. Employee Benefits- retirement benefits, perquisites, non-monetary benefits.

SUGGESTED BOOKS:

1. Dewakar Goel, PERFORMANCE APPRAISAL AND COMPENSATION MANAGEMENT, PHI Learning, New Delhi.
2. Richard.I. Henderson, COMPENSATION MANAGEMENT IN A KNOWLEDGE BASED WORLD, Prentice Hall India, New Delhi.
3. Richard Thrope & Gill Homen, STRATEGIC REWARD SYSTEMS, Prentice Hall India, New Delhi.
4. Michael Armstrong & Helen Murlis, HAND BOOK OF REWARD MANAGEMENT, Crust Publishing House

Proposed Syllabus for 4th Year
(7th & 8th Semester)

SEMESTER VII (Marketing - Major)

Paper Code: BS232C

Paper Name: Direct Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course provides a comprehensive understanding of direct marketing strategies, tools, and tactics used to engage customers and drive sales. Students will learn about the various components of direct marketing campaigns and how to effectively measure their success.

Unit 1: Digital Marketing Fundamentals

Introduction to digital marketing and its significance, differentiating digital marketing from traditional marketing, Understanding the buyer's journey in the digital age, Key digital marketing channels: SEO, PPC, Social Media, Email, Content, Ethical and legal considerations in digital marketing

Unit 2: Digital Marketing Strategy and Planning

Developing a digital marketing strategy: Objectives, target audience, crafting a unique value proposition for online audiences, Budgeting and allocating resources for digital campaigns, creating a content plan and editorial calendar, Aligning digital marketing goals with overall business objectives

Unit 3: Digital Marketing Channels and Execution

Search Engine Optimization (SEO): Techniques and best practices, Pay-Per-Click (PPC) Advertising: Google Ads, campaign setup, Social Media Marketing: Platforms, content creation, engagement, Email Marketing: List building, segmentation, automation, Content Marketing: Blogging, visual content, storytelling

Unit 4: Analytics, Optimization, and Trends

Key performance indicators (KPIs) in digital marketing, Web analytics tools: Google Analytics, tracking user behaviour, Conversion rate optimization (CRO) strategies, A/B testing and data-driven decision-making, Emerging trends in digital marketing: Mobile, voice search, AI

SUGGESTED BOOKS:

1. "Direct Marketing: Strategy, Planning, Execution" by Edward L. Nash, Ron Bliwas.
2. "Direct Marketing in Practice" by Matthew Housden and Brian Thomas.
3. "Direct Marketing for Nonprofits: Essential Techniques for the New Era" by Kay Partney Lautman.
4. "Direct Marketing for Nonprofits: Essential Techniques for the New Era" by Kay Partney Lautman.

SEMESTER VII (Marketing - Major)

Paper Code: BS233C

Paper Name: Industrial Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: Course outcomes for an industrial marketing course are the specific skills, knowledge, and abilities that students should gain upon completing the course. These outcomes can vary based on the course's level (undergraduate, graduate), duration, and objectives.

Unit 1: Introduction to Industrial Marketing

Understanding the characteristics of industrial markets. Differentiating industrial marketing from consumer marketing., Overview of B2B (business-to-business) marketing concepts. Key players in industrial marketing: Manufacturers, suppliers, distributors

Unit 2: Industrial Buyer Behaviour

Analyzing the decision-making process in industrial purchases, identifying buying roles and influencers in B2B transactions, Factors influencing industrial buying decisions: Economic, technical, social., Buyer-seller relationships and negotiation strategies

Unit 3: Marketing Strategies for Industrial Markets

Segmenting industrial markets: Criteria, approaches, targeting, Developing value propositions for industrial customers, Positioning strategies for industrial products and services, Pricing strategies: Cost-plus, value-based, competitive pricing, Promotional tactics: Trade shows, industry events, online presence.

Unit 4: Distribution and Supply Chain Management

Distribution channels in industrial markets: Direct, indirect, hybrid, Channel selection and management: Channel partners, intermediaries, Supply chain collaboration and coordination, Inventory management and logistics in B2B contexts, E-commerce and digital technologies in industrial distribution

SUGGESTED BOOKS:

1. "Industrial Marketing: A Strategic Approach" by R. Srinivasan.
2. "Business Marketing Management: B2B" by Michael D. Hutt and Thomas W. Speh.
3. "Business-to-Business Marketing: Relationships, Networks, and Strategies" by Nick Ellis.
4. "Strategic Industrial Marketing" by Frederick E. Webster Jr. and Yoram Wind.

SEMESTER VII (Marketing - Major)

Paper Code: BS234C

Paper Name: International Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: Course outcomes for an international marketing course outline the specific skills, knowledge, and abilities that students are expected to gain upon completing the course.

Unit 1: Introduction to International Marketing

Understanding the significance of international marketing in a globalized economy., Differentiating international marketing from domestic marketing, Examining the challenges and opportunities of entering foreign markets, exploring cultural, political, and economic factors that impact international marketing decisions., Ethical considerations and cultural sensitivity in international marketing

Unit 2: Market Entry Strategies

Analyzing market entry modes: Exporting, licensing, franchising, joint ventures, and foreign direct investment, Evaluating the advantages and disadvantages of each market entry mode, identifying target markets and conducting market research for international expansion, Cross-cultural negotiation and adaptation of marketing strategies

Unit 3: International Marketing Mix

Product adaptation and standardization strategies for global markets, Pricing strategies considering currency fluctuations, competition, and local economic conditions, Developing effective international distribution channels and logistics, Promotional strategies: Cultural considerations, media selection, and communication adaptation, Services marketing in international contexts: Challenges and strategies

Unit 4: Global Marketing Management

Strategic planning for international markets: Setting objectives, budgeting, and resource allocation, managing international branding and positioning across diverse cultures, International consumer behavior and market segmentation, Cross-cultural management and team dynamics in global marketing teams, Measuring and evaluating international marketing performance

SUGGESTED BOOKS:

1. "International Marketing" by Philip R. Cateora, John L. Graham, and Mary C. Gilly.
2. "International Marketing Strategy: Analysis, Development and Implementation" by Isobel Doole and Robin Lowe.
3. "Global Marketing: Contemporary Theory, Practice, and Cases" by Ilan Alon and Eugene Jaffe.
4. "Global Marketing: Foreign Entry, Local Marketing, and Global Management" by Johny K. Johansson

SEMESTER VII (Marketing - Major)

Paper Code: BS235C

Paper Name: Digital Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: By this subject student will be able to develop and execute a marketing plan, incorporating all elements of the marketing mix, segmentation and positioning strategies and other elements. It helps in understanding of the role of both digital and traditional media in marketing, and the intersection of online and offline strategies and tactics.

Unit 1: Introduction to Digital Marketing:

Understanding the digital marketing landscape and its evolution, differentiating digital marketing from traditional marketing methods, Key digital marketing channels and their significance, the role of technology and data in shaping digital marketing strategies

Unit 2: Digital Marketing Strategies and Planning

Developing a digital marketing strategy: Objectives, target audience, value proposition, Market segmentation and targeting in the digital context, crafting an effective digital marketing plan: Budgeting, timeline, resource allocation, Setting SMART goals for digital campaigns

Unit 3: Digital Marketing Channels and Tactics

Search Engine Optimization (SEO): Techniques, on-page, off-page optimization, Pay-Per-Click (PPC) Advertising: Google Ads, keyword research, campaign setup, Social Media Marketing: Platforms, content creation, engagement strategies, Email Marketing: List building, segmentation, automation, best practices, Content Marketing: Blogging, video, infographics, storytelling

Unit 4: Analytics, Measurement, and Optimization

Key performance indicators (KPIs) in digital marketing: Traffic, conversion rates, ROI, Web analytics tools: Google Analytics, interpreting user behavior, tracking conversions, Data-driven decision-making: Analyzing campaign data to refine strategies, Emerging trends in digital marketing: Automation, AI, voice search, chatbots

SUGGESTED BOOKS:

1. "Digital Marketing: Strategy, Implementation and Practice" by Deepak Kanakaraju
Publisher: McGraw-Hill Education.
2. "The Digital Marketing Handbook" by Shweta Mitta, Publisher: Notion Press
3. "Digital Marketing: An Integrated Approach" by S. Saravanan and K. Bhaskaran
Publisher: Himalaya Publishing House.
4. "Marketing 5.0: Technology for Humanity" by Philip Kotler, Hermawan Kartajaya, and Iwan Setiawan

SEMESTER VII (Marketing - Minor)

Paper Code: BS254M

Paper Name: Marketing for Travel & Tourism

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: Students will be able to explore the principles and strategies of marketing within the travel and tourism industry. Students will learn how to effectively promote destinations, attractions, and travel services to various target audiences. The course emphasizes the role of branding, digital marketing, and sustainable tourism practices.:

Unit 1: Introduction to Travel & Tourism Marketing

- Overview of marketing concepts in the travel and tourism industry
- Understanding the unique challenges and opportunities of tourism marketing
- Importance of sustainable tourism practices in marketing efforts

Unit 2: Destination Marketing

- Strategies for promoting destinations to different target markets
- Building a unique selling proposition for a destination
- Role of branding and positioning in destination marketing

Unit 3: Digital Marketing for Travel & Tourism

- Utilizing social media, websites, and online advertising
- Search engine optimization (SEO) and content marketing for travel
- Leveraging user-generated content and online reviews

Unit 4: Travel Service Marketing & Sustainable Tourism Marketing

- Marketing strategies for hotels, airlines, cruise lines, and other travel services
- Designing travel packages and bundles to enhance customer value
- Collaborating with travel partners for cross-promotions
- Promoting responsible and sustainable travel practices
- Marketing eco-friendly accommodations, activities, and experiences
- Incorporating cultural sensitivity and community engagement

SUGGESTED BOOKS:

- 1) "Marketing for Hospitality and Tourism" by Philip T. Kotler, John T. Bowen, James C. Makens, Seyhmus Baloglu
- 2) "Tourism Marketing and Management Handbook" by Stephen Page and Joanne Connell
- 3) "Tourism Marketing: A Strategic Approach" by Nigel Morgan, Annette Pritchard, and Roger Pride
- 4) "Destination Marketing: An Integrated Marketing Communication Approach" by Steven Pike
- 5) "Tourism Marketing: Principles and Practice" by Ian McDonnell and Peter Robinson

SEMESTER VII (Marketing - Minor)

Paper Code: BS255M

Paper Name: Marketing Ethics

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course explores the ethical challenges and considerations faced by marketers in today's complex business environment. Students will examine various ethical issues related to advertising, consumer behavior, data privacy, and social responsibility. The course emphasizes the importance of ethical decision-making and responsible marketing practices.

Unit 1: Introduction to Marketing Ethics

Understanding the role of ethics in marketing decision-making, Importance of ethical behavior in building trust and reputation

Unit 2: Ethical Perspectives in Marketing

Utilitarianism, deontology, virtue ethics, and other ethical frameworks, Applying ethical theories to marketing dilemmas

Unit 3: Ethics in Advertising and Promotion

Truthfulness, transparency, and honesty in advertising, Deceptive advertising and its impact on consumer trust

Unit 4: Consumer Behavior, Data Privacy and Digital Ethics

Understanding consumer rights and responsibilities, Manipulative marketing practices and their implications

Protecting consumer data and privacy, Ethical considerations in online tracking and personalized marketing

SUGGESTED BOOKS:

1. "Marketing Ethics" by George G. Brenkert
2. "Ethics in Marketing: International Cases and Perspectives" by Patrick E. Murphy, Gene R. Laczniak, Norman E. Bowie
3. "Marketing Ethics and Social Responsibility" by N. Craig Smith and Patrick E. Murphy
4. "Business Ethics: Ethical Decision Making & Cases" by O.C. Ferrell and John Fraedrich
5. "Marketing Ethics: A Practical Approach" by Clifford J. Shultz II

SEMESTER VII (Marketing - Minor)

Paper Code: BS256M

Paper Name: Strategic Marketing Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This subject will help in understanding position products/ services against market needs and competitive offerings. Develop integrated marketing strategies as well as evaluate and propose appropriate activities and organizational structures to implement and control the chosen strategy effectively.

Unit 1: Introduction to Strategic Marketing Management

Understanding the role and significance of strategic marketing in organizations, differentiating between tactical and strategic marketing decisions, Overview of the strategic planning process in marketing, Analyzing the impact of external and internal factors on strategic marketing

Unit 2: Market Analysis and Segmentation

Conducting market research and environmental scanning, identifying market trends, opportunities, and threats, Segmentation, targeting, and positioning (STP) strategies

Unit 3: Competitive Analysis and Positioning and Marketing Planning

Analyzing competitive forces and industry structure, identifying direct and indirect competitors, Strategies for sustainable competitive advantage, setting marketing objectives aligned with overall business goals, designing marketing strategies for different product life cycle stages, Developing marketing mix strategies: Product, price, place, promotion

Unit 4: Innovation and New Product Development

Driving innovation through strategic marketing, Strategies for developing and launching new products, Managing the innovation process and minimizing risks, Leveraging customer insights for product innovation.

SUGGESTED BOOKS:

1. "Strategic Marketing: Indian Cases" by V. Kumar and Rajan Varadarajan, Pearson India
2. "Strategic Marketing Management: Building a Foundation for Your Future" by R. Srivastava and Susan Agarwal, Himalaya Publishing House
3. "Strategic Marketing Management: Cases" by R. Srinivasan and R. S. N. Pillai, Himalaya Publishing House
4. "Strategic Marketing: Text and Cases" by G. S. Garg and Pallavi Garg, Excel Books

SEMESTER VII (Marketing - Minor)

Paper Code: BS257M

Paper Name: B2B & B2C Marketing

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This subject will help in understanding the differences between B2C and B2B marketing. This approach marketing helps in solving problems from an inter-organizational perspective, in particular, learn about decision making at buying centers.

Unit 1: Introduction to B2B and B2C Marketing

Understanding the differences between B2B and B2C marketing, Overview of key concepts and strategies in B2B and B2C marketing, The role of customer behavior and decision-making in each context, Market trends and challenges in B2B and B2C sectors.

Unit 2: B2B Marketing Strategies

Identifying B2B customer needs and value propositions, building relationships with B2B customers: Strategic pricing and negotiation in B2B contexts, Supply chain dynamics and collaboration in B2B marketing, B2B branding and communication strategies

Unit 3: B2C Marketing Strategies

Analyzing consumer behavior and purchasing patterns in B2C markets, Product differentiation and positioning in B2C contexts, B2C pricing strategies: Psychological pricing, dynamic pricing, developing effective B2C advertising and promotional campaigns, Building customer loyalty and retention in B2C marketing.

Unit 4: Market Segmentation and Targeting

Segmentation approaches in B2B and B2C markets, targeting strategies based on customer characteristics and behaviors, Positioning strategies for both B2B and B2C offerings

SUGGESTED BOOKS:

1. "Business Marketing Management: B2B" by Michael D. Hutt and Thomas W. Speh.
2. "Marketing Management: B2C" by Philip Kotler and Kevin Lane Keller.
3. "Marketing Management: B2B" by Rajendra Nargundkar

SEMESTER VII (Finance - Major)

Paper Code: BS236C

Paper Name: Global Financial Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After studying this course the students should be able to understand Meaning of Globalization, Analyze the implication of Globalisation in India, Discuss the problems and challenges of Globalisation, Understand International monetary system, Understand European Monetary System, Discuss the Principles of trading system, Compare balance of payment in the world and balance of payment account in India etc.

Unit – I

Globalisation - Implications of Globalisation – Goals of International Financial Management - scope of International Finance – International Monetary System - Balance of Payments in the World – Balance of Payments Account of India.

Unit- II

Currency Risk and Exposure – Types of Currency Risk – Management of Currency Risk – Concept and Measurement of Transaction Exposure - Techniques of Transaction Exposure Management – Translation Exposure – methods – Transaction Exposure Vs. Translation Exposure – Exchange Risk Management –Operating Exposure – measuring and managing Operating Exposure.

Unit- III

Foreign Direct Investment (FDI) – Forms of FDIs – FDI in World – purpose of overseas investment – Benefits to the Host Countries – Effects of FDI – Political Risk.

Unit- IV

International Money Market and Bond Market Instruments – Euro Bonds – Repos – Euro Commercial Paper – Medium Term Notes – Floating Rate Notes – Loan Syndicates – Euro Deposits – Euro Issues in India.

SUGGESTED BOOKS:

1. Joseph anbarasu, global financial management, ane, delhi, 2010
2. Kevin s, fundamentals of international financial management, phi, delhi, 2010
3. Jeff madura, international financial management, cengage learning, delhi, 2008

SEMESTER VII (Finance - Major)

Paper Code: BS237C

Paper Name: Strategic Financial Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After studying this course the students will be able to understand the concepts of financial management from strategic perspective, as well as the various Techniques and Models of Strategic Financial Management.

UNIT – I

Financial Policy and Strategic Planning –Strategic Planning Process – Objective and Goals – Major Kinds of Strategies and Policies – Corporate Planning – Process of Financial Planning – Types of Financial Plan.

UNIT – II

Financial Models – Tools or Techniques of Financial Modelling – Uses and Limitations of Financial Modelling – Applications of Financial Models – Types of Financial Models – Process of Financial Model Development.

UNIT – III

Expansion and Financial Restructuring – Corporate Restructuring Mergers and Amalgamations – reasons for mergers- Managing an Acquisition Buy - Back of Shares – Demergers.

UNIT – IV

Financial Strategy – Innovative Sources of Finance – Asset Backed Securities – Hybrid Securities namely Convertible and Non-Convertible Debentures, Deep Discount Bonds– Convertible Preference Shares.

SUGGESTED BOOKS:

1. Rajni Sofat&Preeti Hiro, Strategic Financial Management, Phi, Delhi, 2011.
2. Weaver & Weston, Strategic Corporate Finance, Cengage Learning, Delhi, 2001.
3. Chandra, Prasanna, Financial Management, Tata McGraw Hill, Delhi, 2007.
4. Financial Markets and Institutions, S Gurusamy, Thomson.

SEMESTER VII (Finance - Major)

Paper Code: BS238C

Paper Name: Corporate Financial Reporting

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completing the course, the students will be able to understand the various aspects and practices of corporate financial reporting, various corporate reports, and will also be able to prepare financial statements in accordance with relevant accounting standards.

UNIT-I

Developments of Financial Reporting Objectives, Basic Objectives of Financial Reporting, Indian Perspective in Financial Reporting, Qualitative Characteristics of Financial Reporting Information.

UNIT-II

ASI, Disclosure of Accounting Policies, Notes on Accounts in Corporate Annual Reports, Director's Report, Auditors Report.

UNIT-III

Financial Reporting Standards, Meaning of IFRS, Objectives of IFRS, Scope of IFRS, Challenges of IFRS, Convergence with IFRSs: Indian Perspective, Benefits of IFRS. Framework for the Preparation and Presentation of Financial Statements.

UNIT-IV

Valuation of Business for Amalgamation and Merger, Need for valuation of Goodwill, Methods of valuation of Goodwill, Valuation of Shares and Business, Need for Valuation of Shares, Factors Affecting Share Valuation, Methods of Valuation of Shares, Valuation of Preference Share.

SUGGESTED BOOKS:

1. Bergeron, B. (2003). Essentials of XBRL: Financial Reporting in the 21st Century. (1st Ed.). New Jersey: John Wiley & Sons.
2. Dam, B. B., & Gautam, H. C. (2019). Corporate Accounting. Guwahati: Gayatri Publications.
3. Goyal, B. K. (2021). Corporate Accounting. (7th Ed.). New Delhi: Taxmann Publication.
4. Goyal, V. K., & Goyal, R. (2012). Corporate Accounting. (3rd Ed.). New Delhi: PHI Learning.
5. Jain, S. P., & Narang, K. L. (2015). Corporate Accounting. New Delhi: Kalyani Publishers.
6. Kumar, A. (2021). Corporate Accounting. (7th Ed.). New Delhi: Singhal Publications.
7. Maheshwari, S. N., Maheshwari, S. K., & Maheshwari, S. K. (2018). Corporate Accounting. (6th Ed.). New Delhi: Vikas Publishing House.
8. Monga, J. R., & Bahadur, R. (2022). Fundamentals of Corporate Accounting. (27th Ed.). New Delhi: Scholar Tech Press.

SEMESTER VII (Finance - Major)

Paper Code: BS239C

Paper Name: Personal Finance

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completing the course, the students will be able to understand the basic concepts of personal finance, develop the skills to create and manage insurance and investment plans, make sound financial decisions based on their individual circumstances. Students will also be able to identify and avoid financial risks, and protect their assets with insurance.

UNIT-I

Introduction to Financial Planning: Financial goals, Time value of money, steps in financial planning, personal finance/loans, education loan, car loan & home loan schemes. Introduction to savings, benefits of savings, management of spending & financial discipline, Net banking and UPI, digital wallets, security and precautions against Ponzi schemes and online frauds such as phishing, credit card cloning, and skimming.

UNIT-II

Investment planning: Process and objectives of investment, Concept and measurement of return & risk for various assets class, Measurement of portfolio risk and return. Diversification & Portfolio formation. Gold Bond; Real estate; Investment in Greenfield and brownfield Projects; Investment in fixed income instruments financial derivatives & Commodity market in India. Mutual fund schemes including SIP: International investment avenues.

UNIT-III

Insurance Planning: Need for Protection planning. Risk of mortality, health. disability and property. Importance of Insurance: life and non-life insurance schemes. Deductions available under the Income-tax Act for premium paid for different policies.

UNIT-IV

Retirement Benefits Planning: Retirement Planning Goals, Process of retirement planning, Pension plans available in India, Reverse mortgage, New Pension Scheme. Exemption available under the Income-tax Act, 1961 for retirement benefits

SUGGESTED BOOKS:

1. Personal Finance with Connect Plus, 10th Edition, Jack R. Kapoor, Les R. Dlabay, Robert J. Hughes, TMH
2. Personal Finance Principles Every Investor Should Know by Manish Chauhan, Network 18
3. Simplified Financial Management by Vinay Bhagwat, The Times Group

SEMESTER VII (Finance - Minor)

Paper Code: BS258M

Paper Name: Risk Management

Total Credit: 4 (L-T-P = 3-1-0)

Course outcome: The course provides the practical knowledge and skills needed to address everyday problems in corporate financial risk management, with clear understanding of the essential theories, principles and tools.

Unit-1: Introduction

The concept of risk, Types and sources of risk, Risk and the economic environment, A risk management framework, Risk measurement tools and techniques.

Unit-2: Interest rate market

Overview of the markets for interest bearing instruments, Time value of money and discounted cash flow analysis, Identifying and assessing interest rate risk, Interest rate risk management Instruments: short term.

Unit-3: Financial risk & liquidity Market

Credit Risk, Commodity price risk, Treasury operational risk, Sources of liquidity, Borrowing and investment principles, Borrowing and investment principles, Managing liquidity risk.

Unit-4: Foreign exchange risk

How to develop a foreign exchange policy, Transaction risk, translation risk and economic risk, Managing risk from emerging market currencies.

SUGGESTED BOOKS:

- Nason, R., Rethinking Risk Management: Critically Examining Old Ideas and New Concepts, 2017, Business Expert Press (N)
- Nason, R., and L. Fleming, Essentials of Enterprise Risk Management: Practical Concepts of ERM
- for General Managers, 2018, Business Expert Press, (NF)
- Nason, R. and B. Chard, Essentials of Financial Risk Management: Practical Concepts for the
- General Manager, 2018, Business Expert Press, (NC)

SEMESTER VII (Finance - Minor)

Paper Code: BS259M

Paper Name: Corporate Tax Planning & Management

Total Credit: 4 (L-T-P = 3-1-0)

Course outcome: This course aims at making students conversant with the concept of the corporate tax planning and Indian tax laws, as also their implications for corporate management.

Unit-1: Introduction to Tax Management-Concept of tax planning; Tax evasions; Corporate taxation and dividend tax.

Unit-2: Tax planning with reference to setting up of a new business: Locational aspect, nature of business, form of organization. Tax planning with reference to financial management Decision - Capital structure, dividend including deemed dividend and bonus shares; Purchase of Assets out of own Funds or out of Borrowed Funds.

Unit-3: Tax Planning and Financial Management Decisions: Tax planning relating to capital structure decision, dividend policy, inter-corporate dividends and bonus shares.

Unit-4: Goods & Services Tax Act, 2017- Overview of GST Act- Registration & Exempted Goods & Services. Meaning and Scope of Supply of Goods & Services. Time & Valuation of Supply, Types of Supply. Tax provisions related to Input Tax Credit, ISD. Tax provisions related to Job Work & E-Commerce

SUGGESTED BOOKS:

- Dr. Girish Ahuja & Dr. Ravi Gupta Simplified Approach to Corporate Tax Planning & Management (Bharat Law House).
- Singhania V K & Singhania Monica, Corporate tax planning and Business tax procedures, Taxmann publications.
- TAXMANN's Basics of GST, Nitya Tax Associates, 2017.

SEMESTER VII (Finance - Minor)

Paper Code: BS260M

Paper Name: Project Management

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: Students will be able to:

1. Evaluate and select the most desirable projects.
2. Apply appropriate approaches to plan a new project and develop project schedule.
3. Identify the important risks facing in a new project.

UNIT I

Objectives of Project Management- Importance of Project Management- Types of Projects
Project Management Life Cycle- Project Selection – Feasibility study: Types of feasibility Steps
in feasibility study.

UNIT II

Project Scope- Estimation of Project cost – Cost of Capital –Project management Information
System- Teamwork in Project Management.

UNIT III

Project selection methods, break even analysis, DCF method, project implementation,
estimation, cost, price, value, scheduling, and decision tree.

Unit IV

Project evaluation- Project Auditing – Phases of project Audit- Project closure reports Guidelines
for closeout reports.

SUGGESTED BOOKS:

1. “Project Management- A Managerial Approach”, Jack Meredith, Samuel J. Mantel Jr.,
John Wiley and Sons.
2. Project Management – The Managerial Process, Clifford F. Gray & Erik W. Larson, Tata
McGraw Hill.
3. Project Management, S.Choudury, Tata McGraw Hill Publications.

SEMESTER VII (Finance - Minor)

Paper Code: BS261M

Paper Name: Principles of Banking & Risk Management **Total Credit:** 4 (L-T-P = 3-1-0)

Course Outcome

After completing the course, the students will be able to understand the tools and techniques of risk management in Indian Banking Industry and Insurance Sector. Students will also be able to make assessment of asset and liability management, loans and advances, fund management.

Unit I

Techniques and Tools of Risk Management in Indian Banks, New Forms of Operations in Indian Banks, Basel III—Implications for Indian Banking.

Unit II

Assets and Liabilities Management, Non-Performing Assets (NPAS), Loans and Advances, Treasury and Funds Management in Indian Banking, Grievance Mechanism.

Unit III

Risk Management of Insurance: Techniques and Principles, Requirements of an Insurance Contract, Risk Aversion and Risk Management, Risk Management and Shareholders Wealth, Analysis of Insurance Coverage.

Unit IV

Benefit Programs—Employee Benefit Plans, Health Insurance Retailing Services—Trends and Challenges in India, Service Product and Pricing Strategy, Emerging Trends and New Developments in Insurance Industry, Designing The Insurance Services, Pricing and Promotion of Insurance Services.

SUGGESTED BOOKS:

1. Banking, Risk and Insurance Management: N.R. Mohan Prakash, Vikas Publishing.
2. Bank Management: Priyanka Khanna, Jagroop Singh, Kalyani Publishers.
3. Risk Management In Indian Banks: K.M. Bhattacharya, Himalaya Publishing House.
4. Risk Management in Banking, Insurance and Financial Services: R.K. Mishra, Academic Foundation.
5. Insurance and Risk Management: Sunil Kumar, Galgotia Publishing Company.
6. Essentials of Bank Management: A.K. Srivastava, Kunal Books Publisher.

SEMESTER VII (HRM - Major)

Paper Code: BS240C

Paper Name: Human Resource Information System

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The course will help students learn Human Resource Information System, its need, implications and key issues. It helps in understanding different issues related to HRIS and to develop an understanding about application of HRIS.

Unit 1: Introduction to Human Resource Information System (HRIS)

The Concept of HRIS, the role of IT, Database concepts and applications in HRIS, Steps in implementing an HRIS, Benefits and limitations of HRIS

Unit 2: Determining HRIS needs

HRIS needs analysis, System design and acquisition, HR metrics and workforce analytics, Costs justifying HRIS investment.

Unit 3: Resource Information System implementation and acceptance

HRIS Project management, Change management, implementation, integration, maintenance of HRIS.

Unit 4: HRIS Applications

HR administration and HRIS, Talent management, Job analysis and Human Resource Planning, Recruitment and Selection in the Internet context, Training issues in HRIS, Performance management, Compensation and HRIS

SUGGESTED BOOKS:

1. Dr. Michael Kavanagh, Dr. Mohan Thite: Human Resource Information Systems- Basics, application, future and directions
2. P.K.Gupta and Sushil Chaabra: Human Resource Information Systems

SEMESTER VII (HRM - Major)

Paper Code: BS241C

Paper Name: Human Resource Accounting

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: After completion of the course the students are able to understand the values of Human Resources Accounting System in the Organisations and familiarise the process and approaches of Human Resources Accounting.

UNIT -I

Meaning & Definition of HRA – Importance - Development of HRA, HRA for Managers & HR Professionals, Investment in Human Resources, Quality of Work Force and Organizations' Performance, Efficient use of Human Resources, Value of Assets – Illiquid and Non- Marketable Assets – Human Capital.

UNIT - II

Human Resource Planning – Human Capital Investment – Expenditure Vs Productivity – Training – Human Capital & Productivity - Human Resource Accounting – Measurement of Human Value addition into Money Value – Objectives of Human Resources Accounting – Approaches to Human Resource Accounting.

UNIT -III

Investment Approach – Investment in Human Resources - HR Value – Concepts, Methods & Mechanisms - Recruiting and Training Costs – Depreciation –Rates of Return – Organization Behaviour Vs Turnover – Non-Value Adds in the Management of Human Resources, Measures and Prevention - Organization Climate Approach – Improvement Determination of Changes in Human Resource Variables – Increased Costs, Cost Reduction and Future Performance.

UNIT -IV

HR Accounting – Design, Preparation & Implementation - Responsibility Accounting and Management Control - Management Control Structure and Process - Design of HR Accounting Process & Procedures for each of the HR Sub-system including Recruitment, induction, Performance Appraisal and Training - Classification of Costs in HR Accounting – Behavioral Aspects of Management Control – Social Control.

SUGGESTED BOOKS:

1. Eric G. Flamholtz, Human Resource Accounting, Springer
2. Jac Fitz-enz, how to measure Human Resource Management, McGraw Hill
3. Rakesh Chandra katiyar, Accounting for Human Resources, UK Publishing
4. M. Saeed, D.K. Kulsheshtha , Human Resource Accounting, Anmol Publications.
5. D. Prabakara Rao, Human Resource Accounting, Inter India Publications.

SEMESTER VII (HRM - Major)

Paper Code: BS242C

Paper Name: Negotiation and Counselling

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The objective of this course is to provide knowledge of concepts and issues of negotiation and counselling such that to equip the students with valuable skills, techniques and strategies.

Unit I

Counselling: Introduction, Approaches to Counselling, Goals and Process of Counselling; Counselling Procedures and Skills, Organizational Application of Counselling Skills.

Unit II

Changing Behaviors through Counselling; Specific Techniques of Counselling; Role conflicts of Managers and Counselling. Application of Counselling in Specific Organizational Situations: Dealing with problem Subordinates; Performance Management; Alcoholism and Other Substance Abuse. Ethics in Counselling.

Unit III

Negotiation: Introduction, Nature and need for negotiation, negotiation process, Types and styles of negotiation; strategies and tactics; barriers in effective negotiation, Communication Style, Breaking Deadlocks.

Unit IV

Role of trust in negotiations; negotiation and IT; ethics in negotiation; cultural differences in negotiation styles; gender in negotiations; context of mediation; negotiation as persuasion.

SUGGESTED BOOKS:

1. Singh Kavita - Counselling Skills for Managers (PHI)
2. Carroll, M.: Workplace counseling, Sage Publication.
3. Kottler, J. A., & Shepard, D. S.: Introduction to counselling: voices from the field, USA: Cengage Learning.
4. Moursund, J.: The Process of counselling and therapy, New Jersey: Prentice Hall.
5. Patterson, L. E., & Welfel, E. R.: The counselling process: A multi theoretical integrative approach, New York: Brooks Cole.
6. Kolb, D., & Williams, J.: The Shadow Negotiation. UK: Simon & Schuster.
7. Korobkin, R.: Negotiation theory and strategy, Aspen Publisher.

SEMESTER VII (HRM - Major)

Paper Code: BS243C

Paper Name: HR Audit

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This subject will help in understanding the HR Audit Process. It helps in learning the methods and approaches to conduct an HR audit. The major concerns or challenges along with solutions one might face while conducting an HR Audit.

Unit 1:

Human Resource Audit: Introduction, Objectives, Concepts, Components, Need, Benefits
Important Components of Human Resource Development Audit, Need for Human Resource
Audit: Identifying the Human Resource Audit Goal, Defining the Audit Team, Approaches to
Human Resource Audit, Benefits of Human Resource Audit.

Unit 2:

HR Audit Methodology and Issues:

Introduction, Conducting a Human Resource Audit, Preliminary Steps, Goals of the Audit, Areas
of the Audit, Issues in HR Audit, Strategies Alignment of HR Audit.

Unit 3:

HR Audit Workforce Issues and Challenges: Introduction, Workforce Communication and
Employee Relations, Performance Management, Compensation System, Teambuilding System,
Challenges in HR Audit: Assessing the Ability for Change, Post Audit Steps, Preventive and
Corrective Actions, Role in Business Improvement, Methodology and Limitations

Unit 4:

Human Resource Audit Report and Legal Compliance: HR Audit Report- Purpose, Report
Design, Preparation of report, Use of HR Audit report for business improvement.

HR Audit for Legal Compliance: Scope of Human Resource Audit, Pre-employment
Requirements, Hiring Process, New-hire Orientation Process, Workplace Policies and Practices

SUGGESTED BOOKS:

1. T. V. Rao HRD Audit: Evaluating the Human Resource Function for Business Improvement Sage.
- 2 Udai Pareek, T. V. Rao, Designing and Managing Human Resource Systems, Oxford.
- 3Peter Reilly, Marie Strebler, Polly Kettley, The Human Resource Function Audit Cambridge Strategy.
- 4 Dr. Sibram Nisonko HR Audit: Audit Your Most Precious Resources, independently published.

SEMESTER VII (HRM - Minor)

Paper Code: BS262M

Paper Name: Current Trends in HRM

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: The main aim of this subject is the recent trends in human resource management. And it helps in understanding the study of how human resource management will deal with effects of changing world of work.

Unit 1:

Introduction and Concept of HR Trends: Definition and Concept related to HR Trends, Comparative analysis of HR Trends since 2015, Causes of transformation and evolution in the HR Trends, Digital Disruptions and its impact on HR Trends.

Unit 2:

Current HR Trends: Technological Interventions in HR Processes and Management (Artificial Intelligence in Recruitment, Data Analytics in transforming HR, Employee Experience Platforms, Feedback Tools to improve Employee Engagement and Productivity, Employee Wellness Apps, Cloud and Mobile-enabled HR solutions)

Unit 3:

Tectonic Shift in HRM Priorities viz: Managing Workforce Diversity, Establishing Gender Parity and Pay Equality, Providing Mentorship, Assuring Safety at workplace, Catering to Employee expectations, Changing Skill requirements, Conducting Continuous Improvement Programs, Re-engineering work processes for improved productivity, Decentralizing work sites, and Promoting Family work life balance.

Unit 4:

Enhancement of HR Functions through Current HR Trends: Organisational Culture and Effectiveness, Employee Performance and Satisfaction, Human Resource Planning & Management, Recruitment & Selection, Performance Management System, Training & Development, Career / Succession Planning, Rewards & Recognitions, Employee Engagement, Health & Safety, Administrative Functions.

SUGGESTED BOOKS:

1. Human resource and Personnel Management: Text and Cases K. Aswathappa New Delhi TMH.
2. Human Resource Management: Text and Cases V.S.P. Rao Mumbai Himalaya PHS.
3. Human Resource Management Gary Dessler New Delhi, Pearson Education
4. Performance Management guinis New Delhi, Pearson Education.
5. International HRMK, Ashwathappa & Sadhana Dash N. Delhi TMH.

SEMESTER VII (HRM - Minor)

Paper Code: BS263M

Paper Name: HR Ethics

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course aims to impart students various Ethical Decision-Making Skills, Application of Ethical Principles, Promotion of Inclusive Work Environments, Alignment with Legal and Ethical Standards

Unit 1:

Ethical Principles, Theories in HR and Employee Rights and Responsibilities: Overview of ethical theories (utilitarianism, deontology, virtue ethics), Ethical decision-making frameworks, Ethics in the HR context. Rights and responsibilities of employees, Privacy and confidentiality considerations, Whistleblowing and ethical reporting mechanisms

Unit 2:

Diversity, Inclusion and Ethical Issues in Recruitment and Selection:

Importance of diversity and inclusion in the workplace, addressing biases and promoting a diverse workforce, Inclusive hiring and retention strategies. Fairness and objectivity in candidate assessment

Discrimination and equal opportunity, Ethical use of background checks and social media screening.

Unit 3:

Ethics in Performance Appraisals and Compensation, Benefits:

Setting fair performance metrics and Goals Handling performance appraisal challenges ethically, Providing constructive feedback and coaching. Ensuring equitable compensation structures
Transparency in pay practices. Ethical considerations in executive compensation

Unit 4:

Legal and Regulatory Compliance in HR Ethics and Ethical Leadership in Organizational Culture:

Labor laws and regulations relevant to HR, Ethical implications of non-compliance, Ethical conduct in labor relations and collective bargaining, HR's role in shaping ethical organizational culture, Ethical leadership and its impact on HR practices, Building an ethical HR department

SUGGESTED BOOKS:

1. Ethics in Human Resource Management By Myrna L. Gusdorf, MBA, SPHR.
2. A study of ethics on human resource management April 2017, Authors: Swetha Parthasarathy.

SEMESTER VII (HRM - Minor)

Paper Code: BS264M

Paper Name: Legal framework for governing Human Relation **Total Credit:** 4 (L-T-P = 3-1-0)

Course Outcome: This course examines the legal principles and regulations that govern human interactions in various contexts, including employment, consumer transactions, privacy, and more. Students will explore the legal framework that shapes relationships between individuals, organizations, and society, focusing on understanding rights, responsibilities, and remedies.

Unit 1:

Introduction to Legal Framework for Human Relations:

Understanding the scope and importance of the legal framework in human interactions.

Sources of law: Common law, statutory law, regulations, and international treaties.

Overview of key legal concepts: rights, obligations, liability, and remedies.

Unit 2:

Introduction to Legal Framework for Human Relations

Understanding the scope and importance of the legal framework in human interactions.

Sources of law: Common law, statutory law, regulations, and international treaties.

Overview of key legal concepts: rights, obligations, liability, and remedies.

Unit 3:

Employment Law and Employee Rights

Employment relationship: At-will employment, contracts, and exceptions, Anti-discrimination laws: Title VII, ADA, ADEA, and more, Fair Labor Standards Act (FLSA) and wage regulations, Workplace safety and OSHA regulations, Family and Medical Leave Act (FMLA) and employee leave rights.

Unit 4:

Consumer Protection, Contracts and Privacy and Data Protection

Elements of a contract and contract formation., Consumer rights and protection laws., Unfair and deceptive business practices., Product liability and warranties. Overview of privacy laws and regulations. Right to privacy and Fourth Amendment considerations.

Health Insurance Portability and Accountability Act (HIPAA)., General Data Protection Regulation (GDPR) and international data privacy.

SUGGESTED BOOKS:

1. "Business Law: Text and Cases" by Kenneth W. Clarkson, Roger LeRoy Miller, and Frank B. Cross.
2. "The Employee Rights Handbook: Effective Legal Strategies to Protect Your Job From Interview to Pink Slip" by Steven Mitchell Sack.
3. "Employment Law: A Guide to Hiring, Managing, and Firing for Employers and Employees" by Lori B. Rassas

SEMESTER VII (HRM - Minor)

Paper Code: BS265M

Paper Name: International HRM

Total Credit: 4 (L-T-P = 3-1-0)

Course Outcome: This course provides a comprehensive understanding of the challenges and strategies involved in managing human resources across international borders. Students will explore the complexities of staffing, training, compensation, and cultural considerations in a global context.

Unit 1:

Introduction to International HRM, Cultural Diversity and Global Leadership:

Definition and scope of International HRM and Differences between domestic and international HRM., Key challenges and opportunities in managing a global workforce, Impact of culture on HR practices, Cross-cultural communication and negotiation., Developing global leadership skills.

Unit 2:

International Staffing and Recruitment and Compensation and Benefits in a Global Context

Approaches to international staffing: ethnocentric, polycentric, geocentric. Expatriate selection, training, and adjustment. Diversity and inclusion in global recruitment. Compensation strategies for international assignments. Expatriate compensation packages and challenges. Balance sheet approach and localization.

Unit 3: Global Training and Development and Performance Management

Identifying global training needs. Designing and delivering cross-cultural training programs.

Talent development and succession planning in a global context. Evaluating international employee performance. Managing performance across cultural differences.

Unit 4: Labor Relations and Legal Considerations and Emerging Trends in International HRM

Labor laws and regulations in different countries. Managing labor unions and employee relations internationally. Ethical considerations and social responsibility in global HRM., Technology's impact on global HR practices., Remote work and virtual teams., Future trends and challenges in international HRM.

SUGGESTED BOOKS:

1. International Human Resource Management Paperback – by Peter J. Dowling (Author), Marion Festing (Author), Allen D. Engle (Author).
2. International human resource management Author Dr. Indrajit Goswami, Mrs. Jayalaxmi, Baishnab.
3. "International Human Resource Management" by Peter J. Dowling, Marion Festing, and Allen D. Engle Sr.



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Tripura University
(A Central University)
Suryamaninagar, Agartala
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Phone: +91-9954246498
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Proceedings of the 4th BPGS Meeting of Chemical & Polymer Engg. Department held on 12th Jan 2023, 12:30 PM in the Dean's Office (Faculty of Science), Tripura University

Members Present:

1. Dr. Sachin Bhaladhare, Asst. Professor, Chemical & Polymer Engg. Dept., TU - Member
2. Dr. P.K.P. Rupa, Asso. Professor, Material Science & Engg. Dept., TU - Member
3. Prof. B.K. Datta, Dean, Faculty of Science, TU - Chairman

At the outset, Prof. B.K. Datta, Chairman, BPGS, welcomed the members for attending the 4th BPGS meeting. Thereafter, the Board took up the following agenda for discussion.

Agendum – 01: Confirm proceedings of 3rd BPGS meeting held on 30/11/2021

Confirmed

Agendum- 02: Ph.D. Related

Agendum-02a: Research Advisory Committee (RAC) approval of Mr. Harjeet Nath (Part time Ph.D. scholar enrolled in 27/06/2021 with AIN: P20PCE0001)

The BPGS committee has approved the RAC for Part-time Ph.D. scholar Mr. Harjeet Nath

Agendum-02b: Research Advisory Committee (RAC) approval of Miss. Sulagna Bhattacharjee (Full time Ph.D. scholar enrolled in 18/4/22 with AIN: 218889001)

Deferred to next meeting.

Agendum- 03: Inclusion of MOOC courses from SWAYAM portal in the M.Tech. Syllabus

The BPGS committee has accepted and approved inclusion of 2 elective courses from MOOC (Swayam Portal) with provision for credit transfer in its M.Tech. syllabus as per the details below

- a) Membrane Science & Technology course (CP 1008E of 4 credits) offered in M.Tech. 2nd Semester
- b) Research Methodology Fundamentals course (CP1103E of 4 Credits) offered in M.Tech. 3rd Semester

It was further resolved that that Research Methodology Fundamentals course with Code CP1103E be included as an Elective Subject (4 Credits) in the 3rd Semester M.Tech. syllabus in place of CP1103C (4 Credits) offered earlier. Thus this course can now be taken through MOOC with credit transfer provision as per Agendum-03b. The above changes will be in effect for the current new 1st semester M.Tech Batch admitted in the session 2022-23 and onwards.

Agendum- 04: Offering of Skill 3 course from the department itself for its students

The BPGS committee has approved the proposal of offering Computer Skill 3 course of 4 credits for 2nd Semester M.Tech with paper name Computer Skill III (Aspen Plus Simulation Software) and Paper Code: CP1009C following the suggestions of the BPGS members mentioned in Proceedings of the 2nd BPGS meetings held on 26/03/2021. The above changes will be in effect for the current new 1st semester M.Tech Batch admitted in the session 2022-23 and onwards.

The meetings ended with vote of thanks to chair.



Prof. B.K. Datta

Dean Science and Chairman BPGS

Chairman
B.P.G. Studies
Department of chemical and polymer engg
Tripura University

Prof. B.K. Datta
संकायाध्यक्ष / Dean
विज्ञान संकाय
Faculty of Science
त्रिपुरा विश्वविद्यालय
Tripura University

Curriculum Structure

M.Tech. in Chemical & Polymer Engineering

Total Core (C) Credits: 60, Total Elective (E) Credits: 20, Total Credits: 80

M.Tech. First (1 st) Semester – 600 Marks (C credits: 16; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 901C	Advanced Reaction Engineering	4	0	0	4	100		C: Core Course
CP 902C	Polymer Science and Technology	4	0	0	4	100		
CP 903C	Heat and Mass Transfer	4	0	0	4	100		
CP 906E	Rubber Science and Technology	4	0	0	4	100		E: Elective Course (students to select anyone from the list)
CP 907E	Colloids and Interface Science	4	0	0	4	100		
CP 909E	Polymer Composites	4	0	0	4	100		
Elective from another department	-	4	0	0	4	100		Mandatory course for M.Tech. students
Practical Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks		Remarks
CP 904C	Polymer Lab	0	0	2	2	50		
CP 905C	Reaction Engineering Lab	0	0	2	2	50		
SUB TOTAL		20	0	4	24	600		
M.Tech. Second (2 nd) Semester – 600 Marks (C credits: 16; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1002C	Polymer Characterization and Testing	4	0	0	4	100		C: Core Course
CP 1004C	Fluidization Engineering	4	0	0	4	100		
CP 1004E	Polymer Processing	4	0	0	4	100		E: Elective Course (students to select any two from the list)
CP 1007E	Advanced Fluid Flow Rheology	4	0	0	4	100		
CP 1008E	Membrane Science and Technology	4	0	0	4	100	Yes	
CP 1009C	Computer Skill-III (Aspen Plus Simulation)	4	0	0	4	100		Computer Skill –III (Mandatory course offered by department)

Practical Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1003C	Polymer Characterization Lab	0	0	2	2	50		
CP 1005C	Fluidization Engineering lab	0	0	2	2	50		
SUB TOTAL		20	0	4	24	600		
M.Tech. Third (3rd) Semester – 400 Marks (C credits: 12; E credits: 8)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1103E	Research Methodology Fundamentals	4	0	0	4	100	Yes	
CP 1104C	Project Part-I	0	0	12	12	300	Semester project progress report (150 marks), seminar, and Viva-Voce (150 marks)	
SUB TOTAL		4	0	12	16	400		
M.Tech. Fourth (4th) Semester – 400 Marks (C credits: 16; E credits: 0)								
Theory Papers (Code)	Paper Name	Credit Distribution			Total Credit	Marks	MOOC	Remarks
		L	T	P				
CP 1203C	Project Part-II	0	0	16	16	400	M.Tech. final thesis (200 marks), Comprehensive seminar and Viva-Voce (200 marks)	
SUB TOTAL		0	0	16	16	400		
AGGREGATE (Entire Duration of M.Tech.)		44	0	36	80	2000		

* L - Lecture hrs/week T - Tutorial hrs/week P-Project/Practical/Lab/All other non-classroom academic activities, etc. hrs/week C - Credit Points of the Course E- Elective Points of the Course

CP1009C Computer Skill III

Aspen Plus Simulation Software

Introduction to Aspen Plus

Aspen-An introduction, Getting started with Aspen Plus, Simulation of flash drums, computation of Bubble point and dew point temperatures, Txy and Pxy diagrams of a binary mixture

Simulation of Reactor Models

Regular models, R-Stoic Model, RCSTR Model, RPlug Model

Simulation of Distillation Models

Built in distillation models, DSTWU model, RadFrac Model

Simulation in Chemical Plants, New models in Aspen Plus research

Recommended Books:

1. Amiya K. J., Process Simulation and Control Using Aspen, Second Edition, Prentice Hall India, 2012
2. Bequette, B., Process Dynamics: Modeling, Analysis and Simulation, Second Edition, Prentice Hall, 2003

CP1003E Research Methodology Fundamentals

Experimental in chemical and polymer research

Laboratory formalities, instruments handling and maintenance, laboratory safety, and troubleshooting; Materials Science research: development of a research idea, methods to perform experiments, data collections, errors in data collections, interpretation of results, and related discussions, reproducibility of data.

Preparation of research reports/manuscript

Authorship, graphical abstract, introduction, experimental/computational methods, results and discussion, conclusions.

Few important sections in Chemical and Polymer research

Acknowledgment, conflict of interest, copyright, ethics of research and publications; Patents; Post-publication: citation of an article, the researcher's profile, communication with scientist, and collaboration.

Recommended Books:

1. C.R. Kothari, Research Methodology Methods and Techniques, 2/e, Vishwa Prakashan, 2006.
2. Donald H. McBurney, Research Methods, 5th Edition, Thomson Learning, ISBN:81-315-0047-0, 2006.



No.F.TU/REG/AC/26/2024

Date: 31.07.2024

Minutes of the Twenty-sixth Meeting of the Academic Council of Tripura University held on 31st July, 2024 at 2:00 P.M. in the Council Hall, Administrative Building, Tripura University.

Members present:

- | | |
|---|------------------------|
| 1. Prof. Ganga Prasad Prasain,
Vice-Chancellor, Tripura University | - Ex-officio Chairman |
| 2. Prof. Badal Kumar Datta, Dean,
Faculty of Science, Tripura University | -Member |
| 3. Prof. Chinmoy Roy, Dean,
Faculty of Commerce, Law,
Management & Information Science, Tripura University | -Member |
| 4. Prof. Swanirbhar Majumder, Head,
Department of Information Technology, Tripura University | -Member |
| 5. Prof. Ashes Gupta,
Deptment of English, Tripura University | -Member |
| 6. Prof. Y.V. Krishnaiah, Department of Geography &
Disaster Management, Tripura University | -Member |
| 7. Dr. Gautam Chakma, Associate Professor
Department of Political Science, Tripura University | -Member |
| 8. Dr. Dilip Rana, Assistant Professor,
Department of Economics, Tripura University | -Member |
| 9. Dr. Fr. Benny K. John, Principal,
Holy Cross College, Agartala, Tripura | -Member |
| 10. Dr. Dibakar Deb, Principal,
Techno College of Engineering, Agartala, Tripura | -Member |
| 11. Dr. Deepak Sharma
Registrar, Tripura University | - Ex-officio Secretary |

At the outset, Prof. Ganga Prasad Prasain, Hon'ble Vice-Chancellor & Chairman welcomed all the members. Thereafter, Dr. Deepak Sharma, Registrar & Secretary presented the agenda for discussion:

Item No.01/26/2024: To confirm the Minutes of the following Academic Council of Tripura University:
 (a) Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 (b) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 (c) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Minutes of the above meetings of the Academic Council were read out and approved unanimously.

Item No.02/26/2024: To report the Action Taken on the decisions of the Minutes of the following meetings of the Academic Council of Tripura University:
 (a) Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 (b) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 (c) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Action taken on the decisions of the above meetings of the Academic Council were reported and approved unanimously.



Item No. 03/26/2024: i. To place for approval Minutes of the following meetings of the College Development Council (CDC):

- (a) Minutes of the 6th CDC meeting held on 27.06.2022.
- (b) Minutes of the 7th CDC meeting held on 03.02.2023.
- (c) Minutes of the 8th CDC meeting held on 05.07.2023.
- (d) Minutes of the Emergent Meeting of the CDC held on 11.07.2024.

Resolution: Minutes of the above meetings of the College Development Council were read out and approved unanimously.

ii. To place for approval the minutes of following IQAC meetings:-

- (i) 39th Meeting (Emergent Meeting) held on 08.03.2022.
- (ii) 40th Meeting held on 18.07.2022.
- (iii) 41st Meeting held on 16.12.2022.
- (iv) 42nd Meeting held on 27.07.2023.
- (v) 43rd Meeting held on 24.08.2023.

Resolution: Minutes of the above meetings of the IQAC were read and approved unanimously.

iii. To place for approval the Minutes of Meetings of the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS)/ Board of Faculty of Studies (BFS).

Resolution: Minutes of the various meetings of the BUGS/BPGS/BFS were discussed and approved unanimously.

Item No.04/26/2024: To place the draft of rules & regulations in connection with Ph. D. Programme of Tripura University.

Resolution: Rules & regulations governing Ph. D. Programme of Tripura University were approved after due deliberation.

Item No.05/26/2024: To deliberate on the implementation of UGC Guidelines for pursuing two academic programmes simultaneously.

Resolution: It was resolved to adopt the UGC Guidelines for pursuing two academic programmes simultaneously. However, in this academic year 2024-25, due to constraints of resources students will be allowed to pursue one regular and one online course simultaneously.

Item No. 06/26/2024: To consider the structure of the courses /revised syllabi of various programmes in accordance with the NEP 2020 as approved by the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS).

Resolution: It was resolved to approve the structure of the courses/revised syllabi of various programmes as approved by the BUGS/BPGS.

Also it was observed that the existing Regulations Governing Under Graduate Program in accordance with National Education Policy-2020 is also applicable to professional courses like BCA and B.Sc in IT w.e.f. the academic session 2023-24. Accordingly necessary amendment be made in the same.


31/7/23



Item No. 07/26/2024: To place for approval the proposal to start a Certificate Course in Digital Media Marketing as proposed by Dattopant Thengadi Employment Generation Resource Centre (DTEGRC), Tripura University.

Resolution: Approved

Item No.08/26/2024: To place for approval the proposal to start a Skill Development course by the Department of Physics, Tripura University in collaboration with the George Telegraph Training Institute, Kolkata.

Resolution: Approved

Item No. 09/26/2024: To consider the following proposals submitted by Head, Department of Physical Education, Tripura University for opening of new departments in Tripura University:
(a) Proposal for opening of Department of Yoga.
(b) Proposal for opening of Department of Sports Management and Tourism.

Resolution: It was resolved to approve the proposals for starting new programmes in Tripura University:

1. Proposal for opening of Department of Yoga.
2. Proposal for opening of Department of Sports Management and Tourism.
3. Rubber Technology
4. Bamboo Cultivation & Resource Utilisation
5. DT Skill Development Centre

Item No. 10/26/2024: To place for approval the matter regarding ratification of two Open Elective Courses titled "Introduction to Indic Studies I & II" in the curriculum of the Deptt of English, T.U. from the academic session 2024-2025 duly approved in the meeting of the the Board of Post Graduate Studies (BPGS) held on 20.02.2024.

Resolution: The matter was approved and the Council proposed to start a Centre for Indian Knowledge System (IKS) in Tripura University.

Item No.11/26/2024: (i) To place for approval the Minutes of the meeting of the Committee constituted to examine the fee structures of Bachelor of Dental Surgery (BDS), MBBS, MD/MS and various Professional Courses of affiliated colleges/institutes to Tripura University held on 29.04.2024.

Resolution: Approved.

(ii) To consider the proposal for revision of fee structure of programmes, remuneration of Teachers/Experts of Tripura University as per decision of the Finance Committee of Tripura University in its 35th Meeting held on 15th March, 2023 (vide Agenda No:FC:35:2023:05)

Resolution: Approved

Item No. 12/26/2024: To institute an award 'Nilkarabi Gold Medal' as proposed by Dr. Nilmoni Deb Burman and Mrs. Karabi Deb Burman for the best student each in BA and MA in Bengali.

Resolution: Approved



Item No.13/26/2024: To place for approval the revised P.G Hostel Prospectus 2024 of Tripura University.

Resolution: Approved

Item No.14/26/2024: To place for approval the Academic Calendar 2023-24 & 2024-25 of the University.

Resolution: Approved

Item No. 15/26/2024: To place the matter regarding nominations of 05 (five) persons to the Board of the Faculty of Studies (BFS) by the Academic Council who have specialized and expertised in the subjects (of the faculty) and who are not employees of the University or of any of its affiliated or recognized institutions' in accordance with Ordinance A-2 (Under Section 31(1) (j) of the Tripura University Act, 2006 read with Clause (3) of Statute 15).

Resolution: The Hon'ble Vice-Chancellor, Tripura University has been authorized to nominate 05 (five) persons to each Board of the Faculty of Studies (BFS).

Item No.16/26/2024: To report the following for approval:

(i) Renaming of 'Bachelor in Medical Laboratory Technology (Operation Theatre) (BMTOT)' to 'Bachelor in Operation Theatre Technology' in TIPS, Hapania.

Resolution: Approved

(ii) The incorporation of Middle-Level Health Provider (MLHP) Topics into existing Curriculum of Community Health Nursing of B.Sc. Nursing Syllabus (4th Year) & Post Basic B.Sc. Nursing Syllabus (2nd Year) as per recommendation of Indian Nursing Council (INC).

Resolution: Approved

(iii) The inclusion of MCA & M.Sc. Computer Science in the eligibility qualification for admission into M.Tech programme in Data Science from the academic session 2023-24 (Ref: Letter of Principal, TIT, Narsingarh, Tripura West addressed to DHE, Govt. of Tripura dt. 20th April, 2023).

Resolution: Approved

(iv) The change of nomenclature of the course "Construction Automation" to "Civil Engineering (Construction Technology)" with effect from the academic session 2022-23.

Resolution: It was resolved to assign Dr. Dibakar Deb, Principal, Techno College of Engineering, Agartala to coordinate with Controller of Examinations (i/c), Tripura University to do the necessary.

(v) The Provisional Rules and Regulations Governing Integrated Master Degree Programme (IMD) in Tripura University in accordance with NIP-2020 w.e.f. the academic session 2023-2024.

Resolution: Approved and resolved that IMD (Common) & IMD (Commerce) be incorporated.


31/7/23



(vi) The grant of provisional affiliation to Tripura Santiniketan Medical College, Madhuban, Ranirkhamar, West Tripura for the academic year 2024-2025 as recommended by the College Development Council in its Emergent Meeting held on 11.07.2024.

Resolution: Approved

(vii) The publication of results of all UG/PG/other courses of Tripura University w.e.f. 17.12.2021 to 31.12.2023.

Resolution: Approved

Supplementary Agenda

Item No.17/26/2024: To consider adoption of New NMC (National Medical Commission) guidelines for MD/MS Examinations Notification dated: 29th December, 2023.

Resolution: Approved

Item No.16/26/2024: To approve the list of name of all Medal holders/recipients (UG/PG /Ph. D/ other degree holders) for conferment of degree/certificate for the Year 2023 in the 13th Convocation to be held on 08.09.2024.

Resolution: The Academic Council was informed that 13th Convocation of the University is scheduled to be held on 08.09.2024 and the list of names of all candidates for conferment of Ph. D degrees and medals for various UG/PG courses for the academic year 2023 as received from the Controller of Examinations, Tripura University was placed and approved.

Also, it was discussed and resolved to confer medal(s) to meritorious candidates of MD/MS of each department/subject for the academic year 2023.

Miscellaneous discussion:

1. Admission Committee was suggested under the Chairmanship of Prof. Ashes Gupta, Department of English, Tripura University comprising of following members:

1. Controller of Examinations, Tripura University
2. Director, IQAC, Tripura University
3. Dean, Students' Welfare, Tripura University
4. Admission Coordinator, Tripura University.

The Chairman approved the same and all the Members unanimously endorsed the decision.

The meeting ended thanking the Chairman and Members.


(Dr. Deepak Sharma)
Registrar
Ex-officio Secretary


(Prof. Ganga Prasad Prasain)
Vice Chancellor &
Ex-officio Chairperson

Tripura University
Dept of English

Open Elective Course

Introduction to Indic Studies-I (EN-914E)

Credit-4/Contact Hours-48

Instructor: Prof. Somdev Banik, Dept of English, TU

Course Objectives (CO)

- CO1: To know about contributions of Bharat to the World civilization.
- CO2: To dispel misrepresentation and negative stereotyping of Indic practices/ traditions.
- CO3: To generate counter-academic discourse to Western hegemony.
- CO4: To promote research/publications on Indic studies

Course Outline

Unit-I

1. Are Indic Traditions Polytheistic? by David Gray,
2. A Short History of Yoga by Georg Feuerstein
3. Democracy in Ancient India by Steve Muhlberger

Unit-II

1. East meets West by Swami B.G. Narasingha
2. Indology and Racism By Subhash Kak
3. On the Misportrayal of India by David B. Gray

Unit-III

1. Language Hegemony and the Construction of Identity by Rajiv Malhotra
2. Decolonizing English Studies: Attaining Swaraj by Makarand Paranjape
3. Tradition, Modernity and Postmodernity/The Local, National, and Global: Challenges in Theory by Makarand Paranjape

Unit-IV

1. Postmodernism and India by Makarand Paranjape
2. From Manusmriti to Madhusmriti: Flagellating a Mythical Enemy by Madhu Kishwar
3. Yes to Sita, No to Ram! by Madhu Kishwar

Suggested Readings:

1. Hindutva: Origin, Evolution and Future. Aravindan Neelakandan. KALI, 2022
2. In Search of the Cradle of Civilization: New Insight on Ancient India. Georg Feuerstein, Motilal Banarsidass, 2008
3. What is Hinduism. David Frawley, Bloomsbury India, 2018
4. Hindu View Of Life. S. Radhakrishnan, Element 2014
5. Battle for Sanskrit. Rajiv Malhotra, HarperCollins, 2017

Tripura University
Dept of English

Open Elective Course

Introduction to Indic Studies-II (EN-1013E)

Credit-4/Contact Hours-48

Instructor: Prof. Somdev Banik, Dept of English, TU

Course Objectives (CO)

- CO1: To know about contributions of Bharat to the World civilization.
CO2: To dispel misrepresentation and negative stereotyping of Indic practices/ traditions.
CO3: To generate counter-academic discourse to Western hegemony.
CO4: To promote research/publications on Indic studies

Course Outline

Unit I: Retracing Saraswati Civilisation, Debunking Aryan Invasion Theory

- i. Vedic River Saraswati and Hindu Civilisation, Ed S. Kalyanaraman, Aryan Books International, New Delhi, 2008
- ii. The Saraswati Flows On: The Continuity of Indian Culture, B.B. Lal, AryanBooks International, New Delhi, 2002

Unit II: Understanding Dharma, Jati, Varna, Kula Conundrum

- i. The Indian Caste System and The British –Ethnographic Mapping and the Construction of the British Census in India. Kevin Hobson
- ii. Varna Jati Caste, Rajiv Malhotra, Vijaya Vishwanathan, Occam Books, 2023

Unit III: Introduction to Indic Knowledge Systems

- i. Indian Knowledge Systems: Nature, Philosophy and Character. Kapil Kapoor
- ii. Introduction to Mimamsa Philosophy
- iii. History of Indian Science, an Essay in Grolier Encyclopaedia, 2000 by Subhash Kak

Unit IV: Understanding the concepts of Sat Chit Ananda

- i. Concepts of Space, Time and Consciousness in Ancient India. Subhash Kak, 2008
- ii. On The Science Of Consciousness In Ancient India. Subhash Kak.
- iii. Introduction to Vedantic Thoughts

Suggested Readings:

1. Breaking India: Western Interferences. Rajiv Malhotra & Aravindan Neelakandan, Amaryllis, 2011
2. India That is Bharat. J. Sai Deepak, Bloomsbury India, 2021
3. Sanskrit Non-Translatables. Rajiv Malhotra & Aravindan Neelakandan, Amaryllis, 2020
4. Mind and Self: Patanjali's Yoga Sutra. Subhash Kak, Mount Meru Publishing, 2016
5. Off the Beaten Track: Rethinking Gender Issues for Indian Women. Madhu Kishwar, Oxford University Press, 2002
6. Snakes in the Ganga. Rajiv Malhotra, Occam, 2022



OFFICE OF THE HEAD, DEPARTMENT OF MATHEMATICS
TRIPURA UNIVERSITY, AGARTALA – 799022, TRIPURA

Date: February 22, 2024

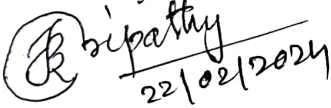
To
The Dean
Faculty of Science and Chairman BFS
Tripura University

Sub: Submission of the details of added/modified syllabus of different courses for MSc and PhD Course work

Sir,

I am to inform you that the Department of mathematics, Tripura has modified/added the following courses of the MSc, PhD Course work and Research Eligibility Test (RET). The modified parts and added parts have been prepared and sent to the BPGS members. Their feedbacks have been received and then the same have been incorporated. It was passed in the BPGS in its meeting held on 31-01-2024. You are requested to permit for uploading to the website of the University and intimate it in the next BFS meeting

Yours Faithfully


22/02/2024

(Prof. B.C. Tripathy)
HoD Mathematics, TU

अध्यक्ष/Head
गणित विभाग
Department of Mathematics
त्रिपुरा विश्वविद्यालय
Tripura University
(A Central University)



Ref. F-1/RA/PHY/TU/NEP-3

Date: 11/05/2023

A meeting of the Task force (Physics) for framing UG syllabus as per NEP 2020 will be held on **11.05.2023 (Thursday) at 3.00 PM in the seminar Hall, Department of Physics, TU.**

Members present:

Signature

1. Prof. Debajyoti Bhattacharjee, Department of Physics, TU (Member) *Debajyoti Bhattacharjee 11/5/23*
2. Prof. Surya Chattopadhyaya, Department of Physics, TU (Member) *Surya Chattopadhyaya 11/5/23*
3. Dr. Anirban Guha, Department of Physics, TU (Member)
4. Dr. Ratan Das, Department of Physics, TU (Member) *Ratan Das 11/5/23*
5. Dr. Kalipada Adhikari, RTC, Agartala (Member) *Kalipada Adhikari 11/5/23*
6. Dr. Soma Banik, NSM, Udaipur (Member) *Soma Banik 11/5/23*
7. Dr. Subrata Deb, WC, Agartala (Member) *Subrata Deb 11.05.23*
8. Dr. Mahua Acharjee, MBBC, Agartala (Member)
9. Dr. Chandan Debnath, Ambedkar College (Member) *Chandan Debnath 11/5/2023*
10. Mr. Dipankar Das, BBMC, Agartala (Member) *Dipankar Das 11/05/2023*
11. Dr. Sujit Ranjan Das, GDC, Dharmanagar (Member) *Sujit Ranjan Das 11/05/2023*
12. Prof. Barin K. De, Retired Professor, Dept. of Physics, TU (Special invitee)
13. Mrs Anamika Das, DDM College, Khowai (Special invitee) *Anamika Das 11/5/23*
14. Mr. Soumendu Sengupta, ICV College, Belonia (Special invitee) *Soumendu Sengupta 11/5/23*
15. Dr Bijan Deb, Ramkrishna Mahavidyalaya (Special invitee) *Bijan Deb 11/05/23*
16. Dr. Nurul Islam, Ramthakur College (Special invitee) *Nurul Islam 11/05/23*
17. Dr. Raghunandan Das, GDC, Dharmanagar (Special invitee) *Raghunandan Das 11/5/23*

Resolution:

All the members take part in the discussion and finalized the syllabus. The detailed syllabus are given in annexure-I

UG Physics (Major) Course Structure, Tripura University
(As per NEP-2020 guideline)

Year	Semester	Course Code	Paper Title	Theory/ Practical	Credits
1 st	I	PH-101C	Mathematical Physics-1 (Th)	Theory	4 Cr
		PH-102C	Mechanics (Th+Pr)	Theory + Practical	2 Cr+ 2 Cr
	II	PH-201C	Thermodynamics & Transport Phenomena (Th)	Theory	4 Cr
		PH-202C	Fluid Mechanics & Acoustics (Th+Pr)	Theory + Practical	2 Cr+ 2 Cr
2 nd	III	PH-301C	Electricity and Magnetism-1 (Th)	Theory	4 Cr
		PH-302C	Electricity and Magnetism -2 (Th+Pr)	Theory + Practical	2 Cr+ 2 Cr
	IV	PH-401C	Optics (Th)	Theory	4 Cr
		PH-402C	Electromagnetic Wave & Application of Optics (Th+Pr)	Theory + Practical	2 Cr+ 2 Cr
3 rd	V	PH-501C	Classical Mechanics & Special Theory of Relativity (Th)	Theory	4 Cr
		PH-502C	Statistical Mechanics (Th), Programming in Python-1 (Pr)	Theory + Practical	2 Cr+ 2 Cr
		PH-503C	Quantum Mechanics -1 (Th)	Theory	4 Cr
		PH-504C	Analog Electronics (Th+ Pr)	Theory + Practical	2 Cr+ 2 Cr
	VI	PH-601C	Solid state Physics (Th)	Theory	4 Cr
		PH-602C	Atomic & Molecular Physics (Th) + Project -2 (Pr)	Theory + Practical	2 Cr+ 2 Cr
		PH-603C	Nuclear Physics (Th)	Theory	4 Cr
		PH-604C	Digital Electronics (Th+Pr)	Theory + Practical	2 Cr+ 2 Cr

**NEP Syllabus 4th year
and 5th year
Department of Physics
(As per NEP 2020)**

Semester	Major with credit	Minor / General Elective
Seventh Semester	<p>PH701C Mathematical Physics -II (Th) Credit: 4)</p> <p>PH702C Electronics-I (Th) (Credit=2) Electronics design practical: (Credit=2)</p> <p>PH703C Advanced Classical Mechanics (Th), (Credit: 4)</p> <p>PH704C Electronics-II (Th) (Credit=2) Computer Programming practical: (Credit=2)</p>	PH701M Instrumentation (credit=4)
Eighth Semester	<p>21. Quantum Mechanics-II (Th) (Credit=4)</p> <p>22. Advanced Atomic Physics (Th) (Credit=2) Advanced Practical-I (Practical) (Credit=2)</p> <p>23. Advanced Statistical Mechanics (Th) (Credit=4)</p> <p>24. Advanced Molecular Physics (Th) (Credit=2) Advanced Practical-II (Practical) (Credit=2)</p>	PH801M Advanced computational techniques (credit=4)
Ninth Semester	<p>25. Classical Electrodynamics and Special Relativity (Th) (Credit=4)</p> <p>26. Advanced Electronics-I (Th) (Credit=2) Advance Electronics Practical-I (Credit=2)</p> <p>27 Advanced Quantum Mechanics (Th) (Credit=4)</p> <p>28. Advanced Electronics-II (Th) (Credit=2) Advance Electronics Practical-II (Credit=2)</p>	PH901M Astrophysics and Astronomy (Credit=4)
Tenth Semester	<p>29. Condensed Matter Physics -II (Th) (Credit=4)</p> <p>30. Microprocessor Architecture (Th) (Credit=2) Programming (Pr) (Credit=2)</p> <p>31. Nuclear Physics and particle physics (Th) (Credit=4)</p> <p>32. Project (Th) (Credit=2) Project (Lab work/ field work) (Pr) (Credit=2)</p>	PH100M Nano Science and thin film (Credit= 4)



No.F.TU/REG/AC/26/2024

Date: 31.07.2024

Minutes of the Twenty-sixth Meeting of the Academic Council of Tripura University held on 31st July, 2024 at 2:00 P.M. in the Council Hall, Administrative Building, Tripura University.

Members present:

- | | |
|---|------------------------|
| 1. Prof. Ganga Prasad Prasain,
Vice-Chancellor, Tripura University | - Ex-officio Chairman |
| 2. Prof. Badal Kumar Datta, Dean,
Faculty of Science, Tripura University | -Member |
| 3. Prof. Chinmoy Roy, Dean,
Faculty of Commerce, Law,
Management & Information Science, Tripura University | -Member |
| 4. Prof. Swanirbhar Majumder, Head,
Department of Information Technology, Tripura University | -Member |
| 5. Prof. Ashes Gupta,
Deptment of English, Tripura University | -Member |
| 6. Prof. Y.V. Krishnaiah, Department of Geography &
Disaster Management, Tripura University | -Member |
| 7. Dr. Gautam Chakma, Associate Professor
Department of Political Science, Tripura University | -Member |
| 8. Dr. Dilip Rana, Assistant Professor,
Department of Economics, Tripura University | -Member |
| 9. Dr. Fr. Benny K. John, Principal,
Holy Cross College, Agartala, Tripura | -Member |
| 10. Dr. Dibakar Deb, Principal,
Techno College of Engineering, Agartala, Tripura | -Member |
| 11. Dr. Deepak Sharma
Registrar, Tripura University | - Ex-officio Secretary |

At the outset, Prof. Ganga Prasad Prasain, Hon'ble Vice-Chancellor & Chairman welcomed all the members. Thereafter, Dr. Deepak Sharma, Registrar & Secretary presented the agenda for discussion:

Item No.01/26/2024: To confirm the Minutes of the following Academic Council of Tripura University:
 (a) Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 (b) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 (c) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Minutes of the above meetings of the Academic Council were read out and approved unanimously.

Item No.02/26/2024: To report the Action Taken on the decisions of the Minutes of the following meetings of the Academic Council of Tripura University:

- (a) Minutes of the Twenty-fifth Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 12th July, 2022.
 (b) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 23rd May, 2023.
 (c) Minutes of the Emergent Meeting (through Hybrid mode) of the Academic Council of Tripura University held on 14th December, 2023.

Resolution: Action taken on the decisions of the above meetings of the Academic Council were reported and approved unanimously.



Item No. 03/26/2024: i. To place for approval Minutes of the following meetings of the College Development Council (CDC):

- (a) Minutes of the 6th CDC meeting held on 27.06.2022.
- (b) Minutes of the 7th CDC meeting held on 03.02.2023.
- (c) Minutes of the 8th CDC meeting held on 05.07.2023.
- (d) Minutes of the Emergent Meeting of the CDC held on 11.07.2024.

Resolution: Minutes of the above meetings of the College Development Council were read out and approved unanimously.

ii. To place for approval the minutes of following IQAC meetings:-

- (i) 39th Meeting (Emergent Meeting) held on 08.03.2022.
- (ii) 40th Meeting held on 18.07.2022.
- (iii) 41st Meeting held on 16.12.2022.
- (iv) 42nd Meeting held on 27.07.2023.
- (v) 43rd Meeting held on 24.08.2023.

Resolution: Minutes of the above meetings of the IQAC were read and approved unanimously.

iii. To place for approval the Minutes of Meetings of the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS)/ Board of Faculty of Studies (BFS).

Resolution: Minutes of the various meetings of the BUGS/BPGS/BFS were discussed and approved unanimously.

Item No.04/26/2024: To place the draft of rules & regulations in connection with Ph. D. Programme of Tripura University.

Resolution: Rules & regulations governing Ph. D. Programme of Tripura University were approved after due deliberation.

Item No.05/26/2024: To deliberate on the implementation of UGC Guidelines for pursuing two academic programmes simultaneously.

Resolution: It was resolved to adopt the UGC Guidelines for pursuing two academic programmes simultaneously. However, in this academic year 2024-25, due to constraints of resources students will be allowed to pursue one regular and one online course simultaneously.

Item No. 06/26/2024: To consider the structure of the courses /revised syllabi of various programmes in accordance with the NEP 2020 as approved by the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS).

Resolution: It was resolved to approve the structure of the courses/revised syllabi of various programmes as approved by the BUGS/BPGS.

Also it was observed that the existing Regulations Governing Under Graduate Program in accordance with National Education Policy-2020 is also applicable to professional courses like BCA and B.Sc in IT w.e.f. the academic session 2023-24. Accordingly necessary amendment be made in the same.


31/7/23



Item No. 07/26/2024: To place for approval the proposal to start a Certificate Course in Digital Media Marketing as proposed by Dattopant Thengadi Employment Generation Resource Centre (DTEGRC), Tripura University.

Resolution: Approved

Item No.08/26/2024: To place for approval the proposal to start a Skill Development course by the Department of Physics, Tripura University in collaboration with the George Telegraph Training Institute, Kolkata.

Resolution: Approved

Item No. 09/26/2024: To consider the following proposals submitted by Head, Department of Physical Education, Tripura University for opening of new departments in Tripura University:
(a) Proposal for opening of Department of Yoga.
(b) Proposal for opening of Department of Sports Management and Tourism.

Resolution: It was resolved to approve the proposals for starting new programmes in Tripura University:

1. Proposal for opening of Department of Yoga.
2. Proposal for opening of Department of Sports Management and Tourism.
3. Rubber Technology
4. Bamboo Cultivation & Resource Utilisation
5. DT Skill Development Centre

Item No. 10/26/2024: To place for approval the matter regarding ratification of two Open Elective Courses titled "Introduction to Indic Studies I & II" in the curriculum of the Deptt of English, T.U. from the academic session 2024-2025 duly approved in the meeting of the the Board of Post Graduate Studies (BPGS) held on 20.02.2024.

Resolution: The matter was approved and the Council proposed to start a Centre for Indian Knowledge System (IKS) in Tripura University.

Item No.11/26/2024: (i) To place for approval the Minutes of the meeting of the Committee constituted to examine the fee structures of Bachelor of Dental Surgery (BDS), MBBS, MD/MS and various Professional Courses of affiliated colleges/institutes to Tripura University held on 29.04.2024.

Resolution: Approved.

(ii) To consider the proposal for revision of fee structure of programmes, remuneration of Teachers/Experts of Tripura University as per decision of the Finance Committee of Tripura University in its 35th Meeting held on 15th March, 2023 (vide Agenda No:FC:35:2023:05)

Resolution: Approved

Item No. 12/26/2024: To institute an award 'Nilkarabi Gold Medal' as proposed by Dr. Nilmoni Deb Burman and Mrs. Karabi Deb Burman for the best student each in BA and MA in Bengali.

Resolution: Approved



Item No.13/26/2024: To place for approval the revised P.G Hostel Prospectus 2024 of Tripura University.

Resolution: Approved

Item No.14/26/2024: To place for approval the Academic Calendar 2023-24 & 2024-25 of the University.

Resolution: Approved

Item No. 15/26/2024: To place the matter regarding nominations of 05 (five) persons to the Board of the Faculty of Studies (BFS) by the Academic Council who have specialized and expertised in the subjects (of the faculty) and who are not employees of the University or of any of its affiliated or recognized institutions' in accordance with Ordinance A-2 (Under Section 31(1) (j) of the Tripura University Act, 2006 read with Clause (3) of Statute 15).

Resolution: The Hon'ble Vice-Chancellor, Tripura University has been authorized to nominate 05 (five) persons to each Board of the Faculty of Studies (BFS).

Item No.16/26/2024: To report the following for approval:

(i) Renaming of 'Bachelor in Medical Laboratory Technology (Operation Theatre) (BMTOT)' to 'Bachelor in Operation Theatre Technology' in TIPS, Hapania.

Resolution: Approved

(ii) The incorporation of Middle-Level Health Provider (MLHP) Topics into existing Curriculum of Community Health Nursing of B.Sc. Nursing Syllabus (4th Year) & Post Basic B.Sc. Nursing Syllabus (2nd Year) as per recommendation of Indian Nursing Council (INC).

Resolution: Approved

(iii) The inclusion of MCA & M.Sc. Computer Science in the eligibility qualification for admission into M.Tech programme in Data Science from the academic session 2023-24 (Ref: Letter of Principal, TIT, Narsingarh, Tripura West addressed to DHE, Govt. of Tripura dt. 20th April, 2023).

Resolution: Approved

(iv) The change of nomenclature of the course "Construction Automation" to "Civil Engineering (Construction Technology)" with effect from the academic session 2022-23.

Resolution: It was resolved to assign Dr. Dibakar Deb, Principal, Techno College of Engineering, Agartala to coordinate with Controller of Examinations (i/c), Tripura University to do the necessary.

(v) The Provisional Rules and Regulations Governing Integrated Master Degree Programme (IMD) in Tripura University in accordance with NIP-2020 w.e.f. the academic session 2023-2024.

Resolution: Approved and resolved that IMD (Common) & IMD (Commerce) be incorporated.


31/7/23



(vi) The grant of provisional affiliation to Tripura Santiniketan Medical College, Madhuban, Ranirkhamar, West Tripura for the academic year 2024-2025 as recommended by the College Development Council in its Emergent Meeting held on 11.07.2024.

Resolution: Approved

(vii) The publication of results of all UG/PG/other courses of Tripura University w.e.f. 17.12.2021 to 31.12.2023.

Resolution: Approved

Supplementary Agenda

Item No.17/26/2024: To consider adoption of New NMC (National Medical Commission) guidelines for MD/MS Examinations Notification dated: 29th December, 2023.

Resolution: Approved

Item No.16/26/2024: To approve the list of name of all Medal holders/recipients (UG/PG /Ph. D/ other degree holders) for conferment of degree/certificate for the Year 2023 in the 13th Convocation to be held on 08.09.2024.

Resolution: The Academic Council was informed that 13th Convocation of the University is scheduled to be held on 08.09.2024 and the list of names of all candidates for conferment of Ph. D degrees and medals for various UG/PG courses for the academic year 2023 as received from the Controller of Examinations, Tripura University was placed and approved.

Also, it was discussed and resolved to confer medal(s) to meritorious candidates of MD/MS of each department/subject for the academic year 2023.

Miscellaneous discussion:

1. Admission Committee was suggested under the Chairmanship of Prof. Ashes Gupta, Department of English, Tripura University comprising of following members:

1. Controller of Examinations, Tripura University
2. Director, IQAC, Tripura University
3. Dean, Students' Welfare, Tripura University
4. Admission Coordinator, Tripura University.

The Chairman approved the same and all the Members unanimously endorsed the decision.

The meeting ended thanking the Chairman and Members.


(Dr. Deepak Sharma)
Registrar
Ex-officio Secretary


(Prof. Ganga Prasad Prasain)
Vice Chancellor &
Ex-officio Chairperson



No.F.TU/REG/AC/26/2024

Date: 31.07.2024

Minutes of the Twenty-sixth Meeting of the Academic Council of Tripura University held on 31st July, 2024 at 2:00 P.M. in the Council Hall, Administrative Building, Tripura University.

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| 1. Prof. Ganga Prasad Prasain,
Vice-Chancellor, Tripura University | - Ex-officio Chairman |
| 2. Prof. Badal Kumar Datta, Dean,
Faculty of Science, Tripura University | -Member |
| 3. Prof. Chinmoy Roy, Dean,
Faculty of Commerce, Law,
Management & Information Science, Tripura University | -Member |
| 4. Prof. Swanirbhar Majumder, Head,
Department of Information Technology, Tripura University | -Member |
| 5. Prof. Ashes Gupta,
Deptment of English, Tripura University | -Member |
| 6. Prof. Y.V. Krishnaiah, Department of Geography &
Disaster Management, Tripura University | -Member |
| 7. Dr. Gautam Chakma, Associate Professor
Department of Political Science, Tripura University | -Member |
| 8. Dr. Dilip Rana, Assistant Professor,
Department of Economics, Tripura University | -Member |
| 9. Dr. Fr. Benny K. John, Principal,
Holy Cross College, Agartala, Tripura | -Member |
| 10. Dr. Dibakar Deb, Principal,
Techno College of Engineering, Agartala, Tripura | -Member |
| 11. Dr. Deepak Sharma
Registrar, Tripura University | - Ex-officio Secretary |

At the outset, Prof. Ganga Prasad Prasain, Hon'ble Vice-Chancellor & Chairman welcomed all the members. Thereafter, Dr. Deepak Sharma, Registrar & Secretary presented the agenda for discussion:

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Resolution: Minutes of the above meetings of the Academic Council were read out and approved unanimously.

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Handwritten signature and date:
31/7/24



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Resolution: Minutes of the above meetings of the IQAC were read and approved unanimously.

iii. To place for approval the Minutes of Meetings of the Board of Undergraduate Studies (BUGS)/Board of Post Graduate Studies (BPGS)/ Board of Faculty of Studies (BFS).

Resolution: Minutes of the various meetings of the BUGS/BPGS/BFS were discussed and approved unanimously.

Item No.04/26/2024: To place the draft of rules & regulations in connection with Ph. D. Programme of Tripura University.

Resolution: Rules & regulations governing Ph. D. Programme of Tripura University were approved after due deliberation.

Item No.05/26/2024: To deliberate on the implementation of UGC Guidelines for pursuing two academic programmes simultaneously.

Resolution: It was resolved to adopt the UGC Guidelines for pursuing two academic programmes simultaneously. However, in this academic year 2024-25, due to constraints of resources students will be allowed to pursue one regular and one online course simultaneously.

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Resolution: It was resolved to approve the structure of the courses/revised syllabi of various programmes as approved by the BUGS/BPGS.

Also it was observed that the existing Regulations Governing Under Graduate Program in accordance with National Education Policy-2020 is also applicable to professional courses like BCA and B.Sc in IT w.e.f. the academic session 2023-24. Accordingly necessary amendment be made in the same.


31/7/23



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Resolution: Approved

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Resolution: Approved

Item No. 09/26/2024: To consider the following proposals submitted by Head, Department of Physical Education, Tripura University for opening of new departments in Tripura University:
(a) Proposal for opening of Department of Yoga.
(b) Proposal for opening of Department of Sports Management and Tourism.

Resolution: It was resolved to approve the proposals for starting new programmes in Tripura University:

1. Proposal for opening of Department of Yoga.
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3. Rubber Technology
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Resolution: The matter was approved and the Council proposed to start a Centre for Indian Knowledge System (IKS) in Tripura University.

Item No.11/26/2024: (i) To place for approval the Minutes of the meeting of the Committee constituted to examine the fee structures of Bachelor of Dental Surgery (BDS), MBBS, MD/MS and various Professional Courses of affiliated colleges/institutes to Tripura University held on 29.04.2024.

Resolution: Approved.

(ii) To consider the proposal for revision of fee structure of programmes, remuneration of Teachers/Experts of Tripura University as per decision of the Finance Committee of Tripura University in its 35th Meeting held on 15th March, 2023 (vide Agenda No:FC:35:2023:05)

Resolution: Approved

Item No. 12/26/2024: To institute an award 'Nilkarabi Gold Medal' as proposed by Dr. Nilmoni Deb Burman and Mrs. Karabi Deb Burman for the best student each in BA and MA in Bengali.

Resolution: Approved



Item No.13/26/2024: To place for approval the revised P.G Hostel Prospectus 2024 of Tripura University.

Resolution: Approved

Item No.14/26/2024: To place for approval the Academic Calendar 2023-24 & 2024-25 of the University.

Resolution: Approved

Item No. 15/26/2024: To place the matter regarding nominations of 05 (five) persons to the Board of the Faculty of Studies (BFS) by the Academic Council who have specialized and expertised in the subjects (of the faculty) and who are not employees of the University or of any of its affiliated or recognized institutions' in accordance with Ordinance A-2 (Under Section 31(1) (j) of the Tripura University Act, 2006 read with Clause (3) of Statute 15).

Resolution: The Hon'ble Vice-Chancellor, Tripura University has been authorized to nominate 05 (five) persons to each Board of the Faculty of Studies (BFS).

Item No.16/26/2024: To report the following for approval:

(i) Renaming of 'Bachelor in Medical Laboratory Technology (Operation Theatre) (BMTOT)' to 'Bachelor in Operation Theatre Technology' in TIPS, Hapania.

Resolution: Approved

(ii) The incorporation of Middle-Level Health Provider (MLHP) Topics into existing Curriculum of Community Health Nursing of B.Sc. Nursing Syllabus (4th Year) & Post Basic B.Sc. Nursing Syllabus (2nd Year) as per recommendation of Indian Nursing Council (INC).

Resolution: Approved

(iii) The inclusion of MCA & M.Sc. Computer Science in the eligibility qualification for admission into M.Tech programme in Data Science from the academic session 2023-24 (Ref: Letter of Principal, TIT, Narsingarh, Tripura West addressed to DHE, Govt. of Tripura dt. 20th April, 2023).

Resolution: Approved

(iv) The change of nomenclature of the course "Construction Automation" to "Civil Engineering (Construction Technology)" with effect from the academic session 2022-23.

Resolution: It was resolved to assign Dr. Dibakar Deb, Principal, Techno College of Engineering, Agartala to coordinate with Controller of Examinations (i/c), Tripura University to do the necessary.

(v) The Provisional Rules and Regulations Governing Integrated Master Degree Programme (IMD) in Tripura University in accordance with NIP-2020 w.e.f. the academic session 2023-2024.

Resolution: Approved and resolved that IMD (Common) & IMD (Commerce) be incorporated.

[Handwritten signature]
31/7/23



(vi) The grant of provisional affiliation to Tripura Santiniketan Medical College, Madhuban, Ranirkhamar, West Tripura for the academic year 2024-2025 as recommended by the College Development Council in its Emergent Meeting held on 11.07.2024.

Resolution: Approved

(vii) The publication of results of all UG/PG/other courses of Tripura University w.e.f. 17.12.2021 to 31.12.2023.

Resolution: Approved

Supplementary Agenda

Item No.17/26/2024: To consider adoption of New NMC (National Medical Commission) guidelines for MD/MS Examinations Notification dated: 29th December, 2023.

Resolution: Approved

Item No.16/26/2024: To approve the list of name of all Medal holders/recipients (UG/PG /Ph. D/ other degree holders) for conferment of degree/certificate for the Year 2023 in the 13th Convocation to be held on 08.09.2024.

Resolution: The Academic Council was informed that 13th Convocation of the University is scheduled to be held on 08.09.2024 and the list of names of all candidates for conferment of Ph. D degrees and medals for various UG/PG courses for the academic year 2023 as received from the Controller of Examinations, Tripura University was placed and approved.

Also, it was discussed and resolved to confer medal(s) to meritorious candidates of MD/MS of each department/subject for the academic year 2023.

Miscellaneous discussion:

1. Admission Committee was suggested under the Chairmanship of Prof. Ashes Gupta, Department of English, Tripura University comprising of following members:

1. Controller of Examinations, Tripura University
2. Director, IQAC, Tripura University
3. Dean, Students' Welfare, Tripura University
4. Admission Coordinator, Tripura University.

The Chairman approved the same and all the Members unanimously endorsed the decision.

The meeting ended thanking the Chairman and Members.


(Dr. Deepak Sharma)
Registrar
Ex-officio Secretary


(Prof. Ganga Prasad Prasain)
Vice Chancellor &
Ex-officio Chairperson



DEPARTMENT OF HISTORY
त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY
सूर्यमणिनगर / Suryamaninagar, त्रिपुरा / Tripura - 799022

Date: 11/12/2023

Proceedings of the Meeting of the BUGS in History held on the 11th December, 2023 at 11:00 AM in the Chamber of the Head, Department of History, Tripura University.

The meeting of the BUGS in History was held today *i.e.*, 11th December, 2023 at 11:00 AM in the Chamber of the Head, Department of History, Tripura University in hybrid mode with Prof. Sukhendu Debbarma in the Chair. The following members were present in the meeting:

1. Prof. H. Sudhirkumar Singh (Online)
2. Smt. Sanchita Reang
3. Dr. Monisankar Misra (special invitee)
4. Dr. Lincoln Reang
5. Prof. Sukhendu Debbarma-Chairperson

At the outset, the Chairperson extended welcome to all the members of the Board of Under-Graduate Studies (BUGS) in History for attending the meeting. After that the meeting commenced and following resolutions were taken:

Resolutions

Agenda No. 01: To discuss and approve the paper structure of UG/ 4 year degree course in History for Core, Elective, Interdisciplinary and IMD courses.

Resolution: Approved

Agenda No. 02: To discuss and approve the UG Syllabus in History (Major/ Honors Core) as per NEP-2020

Resolution: Approved upto second year (4 semester) syllabus

Agenda No. 03: To discuss and approve the UG Syllabus in History (Minor-Elective)

Resolution: Approved

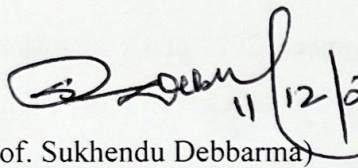
Agenda No. 04: To discuss and approve the UG Syllabus in History (Interdisciplinary Course)

Resolution: Approved

Agenda No. 04: To discuss and approve the Integrated Master Degree (IMD) Syllabus in History

Resolution: Approved upto second year (4 semester) syllabus

The meeting ended with thanks to the chair.



11/12/2023

(Prof. Sukhendu Debbarma)
Head and Chairperson
BUGS, Department of History,
Tripura University.

Copy to:

1. The Dean, Faculty of Arts and Commerce, TU for kind information
2. Prof. Indraneel Bhowmik, TU for kind information
3. All the members of BUGS.....

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I TO VIII)
MAJOR/HONOURS (CORE)
CBCS PATTERN (NEP-2020)

Approved by the BURS, History Meeting held on 11/12/2023

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang . 11/12/2023

③ Manisankar Hira 11/12/2023

④ ~~_____~~ 11/12/2023

⑤ ~~_____~~ 11/12/2023

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I TO VIII)
MINOR(ELECTIVE)

CBCS PATTERN (NEP-2020)

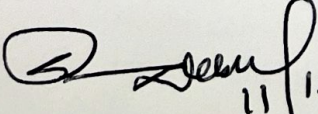
Approved by the BUCS, History Meeting held on 11/12/2023

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang. 11/12/2023

③ Manisankar Sain 11/12/2023

④ Amit Singh 11/12/2023

⑤  11/12/2023

TRIPURA UNIVERSITY
SYLLABUS
FOR
UNDER GRADUATE IN HISTORY
(SEMESTERS-I, III & IV)
INTERDISCIPLINARY COURSES

CBCS PATTERN (NEP-2020)

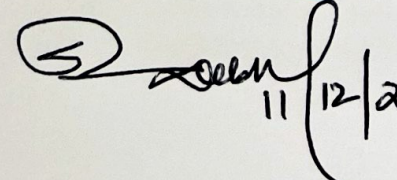
Approved by the BUGC, History Meeting held on 11/12/2023)

① Prof. Sudhir Kumar Singh (Present online)

② Sanchita Riang. 11/12/2023

③ Manisankar Das 11/12/2023

④ Anil Das 11/12/2023

⑤  11/12/2023

TRIPURA UNIVERSITY

SYLLABUS

FOR

INTEGRATED MASTERS'
DEGREE IN HISTORY

(SEMESTERS-I TO VI)

MAJOR/MINOR

CBCS PATTERN (NEP-2020)

Approved by BUGC, History meeting held on 11/02/2023

① Prof. Sudhis Kumar Singh (Present online)

② Sanchita Riang 11/12/2023

③ Manisankar Mir 11/12/2023

④ *[Signature]* 11/12/2023

⑤ *[Signature]* 11/12/2023

M.TECH.
IN
ELECTRONICS & COMMUNICATION
ENGINEERING
TRIPURA UNIVERSITY
(A CENTRAL UNIVERSITY)
TRIPURA, INDIA

COURSE STRUCTURE

A. Karimaker 20/5/22

Bishanka Beata Bhoomik 20/5/22

Dandi 20/5/22

1st Semester: 700 Marks

Course Code	Course Name	Marks	L	T	P	C	Core/Elective	MOOC
EC901C	Advanced Optical Fiber Communication System	100 *(70+30)	04	0	0	04	C	
EC 902 C	Advanced Microwave Engineering	100 *(70+30)	04	0	0	04	C	
EC 903 Ex	Elective Paper I	100 *(70+30)	04	0	0	04	E	
EC 904 Ex	Elective Paper II	100 *(70+30)	04	0	0	04	E	
CSK III	JAVA Software/Python/C/C++	100 *(70+30)	04	0	0	04	CFC (Compulsory Foundation) (offered by CSE or IT) (As per TU Norms)	
EC 905C	Optical communication Lab	100 *(70+30)	0	0	04	02	C	
EC 906C	RF and CAD Project lab	100 *(70+30)	0	0	04	02	C	
Total		700	20	0	08	24		

2nd Semester: 700 Marks

Course Name	Course Name	Marks	L	T	P	C	Core/Elective	MOOC
EC 1001 C	Optical Networks	100 *(70+30)	04	0	0	04	C	
EC 1002 C	Advanced Antennas & Radiating Systems	100 *(70+30)	04	0	0	04	C	
EC 1003 Ex	Elective Paper III	100 *(70+30)	04	0	0	04	E	
EC 1004 Ex	Elective Paper IV	100 *(70+30)	04	0	0	04	E	
EC 1005 C	Term Paper Leading to Thesis	100 *(70+30)	0	0	04	02	C	
EC 1006 C	Project Design	100 *(70+30)	0	0	04	02	C	
EC 1007 C	Programming Lab	100 *(70+30)	0	0	04	02	C	
Total		700	16	0	12	22		

3rd Semester: 700 Marks

Course Code	Course Name	Marks	L	T	P	C	Core/Elective	MOOC
EC 1106 C	Dissertation Phase-I	200	0	0	16	08	C	
EC 1107 C	Thesis Seminar Interim Presentation & VIVA-VOCE	200	00	0	08	04	C	
EC 1108 C	Research Methodology	100	04	0	0	04	C	
EC 1109 C	Workshop and Seminars	100 *(70+30)	00	02	02	02	C	
EC 1110 Ex	Elective Paper V	100 *(70+30)	04	0	0	04	E	
Total		700	08	2	26	22		

4th Semester: 600 Marks

Course Code	Course Name	Marks	L	T	P	C	Core/Elective	MOOC
EC 1206C	Dissertation Phase - II	200	00	00	16	08	C	
EC 1207 C	Thesis Seminar Final Presentation &VIVA-VOCE	200	00	00	16	08	C	
EC 1208 C	Workshop and Seminars	100 *(70+30)	00	02	02	02	C	
EC 1209 Ex	Elective Paper VI	100 *(70+30)	04	00	00	04	E	
Total		600	04	02	34	22		

* 'x' will be replaced by 'A, B, C.....' for elective papers.

*(70+30) indicates 70 marks for external and 30 marks for internal assessment.

*Elective papers can be opted from parent department or other department if offered.

*Minimum credit required per semester is 16 and total credit required is 80.

(as per Tripura University norms)

Total Credit assigned: 90

Elective Papers

Code (Code of Elective followed by numbers given below)	Course Name	L	T	P	C
A	Advanced Communication Techniques	04	0	0	04
B	Remote Sensing	04	0	0	04
C	Statistical Information Processing	04	0	0	04
D	Laser & Optoelectronics	04	0	0	04
E	Computer vision and Image Processing Fundamentals and Applications	04	0	0	04
F	Wireless & Mobile Communication	04	0	0	04
G	RFID	04	0	0	04
H	DSP and Communication networking	04	0	0	04
I	Digital Communication Networks & Protocol	04	0	0	04
J	Artificial Intelligence & Soft Computing	04	0	0	04
K	Digital Image Processing	04	0	0	04
L	Satellite Communication	04	0	0	04

M	Internet of Things (IoT)	04	0	0	04
N	Modern Data Transmission Technology	04	0	0	04
O	Modern Digital Communication Techniques	04	0	0	04
P	Introduction to Coding Theory	04	0	0	04
Q	Mathematical Methods and Techniques in Signal Processing	04	0	0	04
R	Photonic Integrated Circuit	04	0	0	04
S	MOOCs/NPTEL (As they offer)	04	0	0	04
T	EMI/EMC	04	0	0	04
U	MIMO Communication Systems	04	0	0	04
V	VLSI design	04	0	0	04
W	Broadband Network and Network Management	04	0	0	04
X	Advanced Microprocessors and Microcontrollers	04	0	0	04
Y	Advanced Mathematical Techniques	04	0	0	04
Z	Electronic System Design	04	0	0	04

त्रिपुरा विश्वविद्यालय

TRIPURA UNIVERSITY

(केन्द्रीय विश्वविद्यालय / A Central University)

सूर्यमणिनगर / Suryamaninagar-799022

त्रिपुरा, भारत / Tripura, India.



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ईमेल / Email: dean_science@tripurauniv.in

वेबसाइट / Website: www.tripurauniv.ac.in

No.F. TU/Dean of Science/BFS/10/2016

Date: 11.07.2022

Minutes of the Joint Meeting of Board of Faculty of Studies of Arts & Commerce and Science held on 11.07.2022 at 11.00 am on hybrid mode in the Council Hall of Tripura University.

At the outset, Prof. G.P. Prasain, Hon'ble Vice-Chancellor, T.U. welcomed all the members present in the offline and online mode and requested them to give their valuable views on the agenda. Later the meeting was handed over to the Deans.

Members present:

1. Prof. R.K. Sinha, Department of Botany, T.U. - Member
2. Prof. A.K. Saha, Department of Botany, T.U. - Member
3. Prof. Sipra Ray, Department of Sanskrit, T.U. - Member
4. Prof. R.K. Nath, Department of Chemistry, T.U. - Member
5. Prof. R.N. Dutta Purkayastha, Coordinator, IMD, T.U. - Member
6. Prof. S. Majumdar, Department of Chemistry, T.U. - Member
7. Prof. Swanirbhar Majumder, Department of IT, T.U. - Member
8. Prof. B.C. Tripathy, Department of Mathematics, T.U. - Member
9. Prof. Rajesh Bhowmik, Department of Fine Arts, T.U. - Member
10. Prof. N.S. Thingujam, Department of Psychology, T.U. - Member
11. Prof. S. Chattopadhyaya, Department of Physics, T.U. - Member
12. Prof. Ashes Gupta, Department of English, T.U. - Member
13. Prof. Debasish Maiti, Department of Human Physiology, T.U. - Member
14. Prof. Indraneel Bhowmik, Department of Economics, T.U. - Member
15. Prof. C.B. Majumder, Department of Political Science, T.U. - Member
16. Prof. D. Bhattacharjee, Department of Physics, T.U. - Member
17. Prof. Sabyasachi Dasgupta, Department of Forestry & Biodiversity, T.U. - Member
18. Prof. S. Bhattacharya (Halder), Department of Mathematics, T.U. - Member
19. Prof. Dipayan Choudhuri, Department of Human Physiology, T.U. - Member
20. Prof. Y.V. Krishnaiah, Department of Geography & Disaster Management, T.U. - Member
21. Prof. Shaon Ray Chaudhuri, Department of Microbiology, T.U. - Member
22. Prof. N. Das (Pan), Department of Geography & Disaster Management, T.U. - Member
23. Prof. S.A. Hussain, Department of Physics, T.U. - Member
24. Prof. Chinmoy Roy, Department of Commerce, T.U. - Member
25. Prof. R.K. Mahapatra, Department of Library & Information Science, T.U. - Member
26. Prof. Sukhendu Debbarma, Department of History, T.U. - Member
27. Prof. Debarshi Mukherjee, Department of Business Management, T.U. - Member
28. Dr. M.K. Bhowmik, Department of CSE, T.U. - Member

29. Dr. Saptarshi Mitra, Department of Geography & D.M, T.U. - Member
30. Dr. Abhishek Majumder, Department of CSE, T.U. - Member
31. Dr. Biplab Debnath, Department of Political Science, T.U. - Member
32. Dr. Champa Nandi, Department of E.E., T.U. - Member
33. Dr. Sorochita Basu, Department of Botany, T.U. - Member
34. Dr. Alak Roy, Department of IT, T.U. - Member
35. Dr. Prasanta Kr. Das, Department of Physical Education, T.U. - Member
36. Dr. Bimal Debnath, Department of Forestry & Biodiversity, T.U. - Member
37. Dr. Subhash Sarkar, Department of Education, T.U. - Member
38. Dr. Tinku De (Gope), Department of Education, T.U. - Member
39. Dr. S.N. Tiwari, Department of Sanskrit, T.U. - Member
40. Dr. S.S. Singh, Department of Zoology, T.U. - Member
41. Dr. Gautam Chakma, Department of Political Science, T.U. - Member
42. Dr. Gobinda Gopal Khan, Department of MSE, T.U. - Member
43. Dr. B.M. Pandey, Department of Law, T.U. - Member
44. Dr. Subir Kr. Sen, Department of Commerce, T.U. - Member
45. Dr. Ajaykumar M. Savane, Department of Music, T.U. -Member
46. Dr. Samrat Hore, Department of Statistics, T.U. - Member
47. Dr. Sachin Bhaladhare, Department of Chemical & Polymer Engineering, T.U. - Member
48. Dr. P. Karuna Purnapa Rupa, Department of Material Science & Engineering, T.U. - Member
49. Dr. Samir Debbarma, Department of Kokborok, T.U. - Member
50. Dr. Jayanta Pal, Department of IT, T.U. - Member
51. Dr. Anirban Karmakar, Dept.of Electronics & Communication Engineering, T.U. - Member
52. Dr. Bishanka Brata Bhowmik, Dept.of Electronics & Communication Engineering, T.U. - Member
53. Dr. S. Indrakumar, Department of Linguistics & Tribal Language, T.U. - Member
54. Dr. Khawlsongkim Suantak, Department of Linguistics & Tribal Language, T.U. - Member
55. Dr. Partha Sarathi Sil, Department of Sanskrit, T.U. - Member
56. Dr. Pratap Ch. Acharya, Department of Pharmacy, T.U. - Member
57. Dr. Ratan Das, Department of Physics, T.U. - Member
58. Dr. Rajat Deb, Department of Commerce, T.U. - Member
59. Dr. Sudipta Pal, Department of Human Physiology, T.U. - Member
60. Parama Chakma, Department of Sociology, T.U. - Member
61. Subrata Dey, Department of Fine Arts, T.U. - Member
62. Prof. B.K. Datta, Dean, Faculty of Science, T.U. - Chairman
63. Prof. Shyamal Das, Dean, Faculty of Arts & Commerce, T.U. - Chairman

Agenda No. 01. To place the NEP 2020 Under Graduate Syllabus of following Departments:

Sl. No.	Name of the Department (Arts & Commerce)	Name of the Department (Science)
1.	BPA Music/Vocal	Geography & Disaster Management
2.	Bengali	Human Physiology
3.	Physical Education	Mathematics
4.	Education	Statistics

5.	Commerce	Information Technology
6.	Psychology	Environmental Science
7.	Sanskrit	Botany
8.	Sociology	Computer Science & Engineering
9.	Economics	Chemistry
10.	History	Physics
11.	Hindi	Zoology
12.	English	-
13.	Linguistics & Tribal Language	-
14.	Philosophy	-
15.	Political Science	-
16.	Fine Arts	-
17.	Kokborok	-
18.	Pali	-
19.	BBA	-
20.	IMD Science, Arts & Commerce including old courses	

Resolution: Approved.

Agenda No. 02. To report the names of Ph.D. Research Scholars who got awarded Provisional Ph.D. Degree under the Faculty of Science and Arts & Commerce, T.U.
(Annexure-1)

Resolution: Approved.

Misc. 01. PG Syllabus of 2 years M. Sc. I.T. to be run in NEILIT Agartala Centre under T.U.

Resolution: Approved.

- 02. (i)** Change of nomenclature of specialization name as Electronics & Communications Engineering which was previously Electronics & Communication Engineering.
(ii) Approval of updated syllabus of M. Tech.

Resolution: Approved.

- 03.** Introduction of B.Tech Course in Artificial Intelligence and Machine Learning under joint Collaboration of Department of Mathematics and Computer Science & Engineering of T.U. Course structure and regulation submitted thereof.

Resolution: Approved.

- 04. (i)** New syllabus course Structure for M. Tech Programme on Power and Energy System under the Department of Electrical Engineering, TIT.

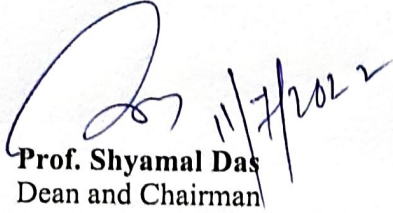
- (ii) Modification of paper MEE1002C name and syllabus (new paper name Advance Power System instead of Power System Protection and Switchgear)

Resolution: Approved.

- 05.** All the modified/ revised Syllabus of UG and PG Courses as reported in respective BUGS & BPGS.

Resolution: Approved.



Prof. Shyamal Das
Dean and Chairman

Board of Faculty of Studies of Arts & Commerce
Tripura University



Prof. B.K. Datta
Dean and Chairman

Board of Faculty of Studies of Science
Tripura University

Copy to:-

1. PS to the Hon'ble Vice Chancellor, Tripura University, for kind information.
2. PA to Registrar, Tripura University, for kind information.
3. Dy. Registrar (Academic), Tripura University, for kind information.
4. Controller of Examinations, Tripura University, for kind information.
5. Finance Officer, Tripura University, for kind information.
6. All members of the Board of Faculty of Studies of Science and Arts & Commerce, T.U.



त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY

सूर्यमणिनगर/ Suryamaninagar, त्रिपुरा/ Tripura- 799022

The 13th meeting of Board of Post Graduate Studies (BPGS) of Department of Electronics & Communication Engineering, Tripura University, held on 23/08/2023 in the Department of Electronics & Communication Engineering, Tripura University at 12 Noon.	
Agenda 1: To confirm the proceedings of 12 th meeting of BPGS held on 15/12/2022.	Resolution: Proceedings of 12 th meeting of BPGS held on 15/12/2022 is confirmed.
Agenda 2: Approval of progress Reports of Semester-IV & V by Ph.D. scholars Mr. Satyabrata Singha (Enrolment No: 1901350003), Mr. Srikanta Das (Enrolment No: 1901350004), Miss. Anindita Bhattacharjee (Enrolment No: 1901350001) & Miss. Piyali Chakraborty (Enrolment No: 1901350002). Approval of Progress Reports of Semester-I, II & III of Ph.D scholars Nitish Sinha (2089900001), Suman Debnath (2089900003) & Semester-I, II of Puja Das (2089900002).	Resolution: All Progress Reports are satisfactory (S) and they have earned credit 8 for each semester. Ph.D. synopsis presented by scholars Nitish Sinha, Suman Debnath & Puja Das is also approved.
Agenda 3: Approval of Pre-PhD public seminar of the scholar Miss. Anindita Bhattacharjee (Registration Number:F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg. TU.	Resolution: It is resolved that Pre-PhD public seminar of the scholar Miss. Anindita Bhattacharjee (Registration Number: F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg. TU is approved.
Agenda 4: Approval of external expert for evaluation of Ph.D. summary and approval of six possible adjudicators for the evaluation of Ph.D. thesis of the scholar Miss. Anindita Bhattacharjee (Registration Number:F/TU/COE/PhD/10/ECE/06/20) of the dept. Electronics & Communication Engg., TU.	Resolution: External expert for evaluation of Ph.D. summary and the names of six possible adjudicators as approved by RAC for the evaluation of Ph.D. thesis of the scholar Miss. Anindita Bhattacharjee is approved.
Agenda 5: Reporting of the names of paper setters, examiners & moderators of all previous semesters of M.Tech in E.C.E., TU and M.Tech in VLSI Embedded Systems, TIT.	Resolution: Names of paper setters, examiners & moderators are approved.
Agenda 6: Commencement of new syllabus of M.Tech, Electronics & Communication Engg., TU as approved in the BFS held on 11/07/2022.	Resolution: Commencement of new syllabus can be done from current semester.
Agenda 7: Change of RAC member Dr. Anuradha Saha (Co-Supervisor) of the PhD scholar Miss. Puja Das.	Resolution: It is decided that Prof. Swanirbhar Majumder (IT. Dept., TU) will act as a RAC member instead of Dr. Anuradha Saha for the PhD scholar Miss. Puja Das.
Miscellaneous if any: Approval of external expert for evaluation of Ph.D. summary and approval of six possible adjudicators for the evaluation of Ph.D. thesis of the scholar Mr. Srikanta Das (Enrolment No: 1901350004) of the dept. Electronics & Communication Engg., TU.	Resolution: External expert for evaluation of Ph.D. summary and the names of six possible adjudicators as decided by RAC for the evaluation of Ph.D. thesis of the scholar Mr. Srikanta Das is approved.

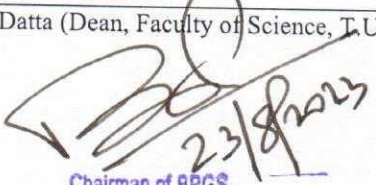
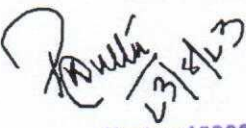
Meeting ended with a vote of thanks to the chair.



त्रिपुरा विश्वविद्यालय/ TRIPURA UNIVERSITY

सूर्यमणिनगर/ Suryamaninagar, त्रिपुरा/ Tripura- 799022

BPGS Members present:

<p>Prof. B. K. Datta (Dean, Faculty of Science, T.U.)</p> <p> 23/8/2023</p> <p>Chairman of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Dr. BishankaBrata Bhowmik (Assistant Professor, Electronics & Communication Engg. Dept)</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Dr. Anirban Karmakar (Assistant Professor, Electronics & Communication Engg. Dept., T.U.)</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Prof. Swanirbhar Majumder (Professor, Dept. of IT, T.U.)</p> <p> 23/08/2023</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Prof. Brinda Bhowmik, Dept. of ECE, NIT Silchar</p> <p> Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	<p>Prof. Rabindranath Bera, Dept. of ECE, Sikkim Manipal Institute of Technology, Sikkim</p> <p> 23-08-2023</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>
<p>Dr. Pranab Kishore Dutta, Associate Prof., Dept. of ECE, NEERIST, Nirjuli, Arunachal Pradesh</p> <p> 23/8/23</p> <p>Member of BPGS Electronics & Communication Engg. Dept. Tripura University, Suryamaninagar</p>	

EC -901 C	Advanced Optical Fiber Communication System
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OVERVIEW OF OPTICAL FIBER COMMUNICATION: Introduction to optical communication, optical fiber, Types of optical fiber, cut-off wave length, Modes in optical fiber. Fabrication techniques of optical fiber.

DIFFERENT TYPES OF LOSSES IN OPTICAL FIBER: Attenuation, absorption, scattering losses, bending loss, **Dispersion:** Group velocity Dispersion, Polarization mode dispersion. **Nonlinearities in optical fiber:** Self Phase Modulation, Cross Phase Modulation, Four Wave Mixing.

OPTICAL SOURCE AND DETECTOR: LED, LASER, Laser diode, DFB laser, PIN photo detector, APD.

ADVANCED MODULATION FORMATS & Optical Modulators: OOK, BPSK, QPSK, QAM, PAM and other higher modulation formats. MZM, EAM, MRM.

ACTIVE AND PASSIVE OPTICAL COMPONENTS AND SUBSYSTEMS: Coupler, circulator, optical Filters, FBG, CFBG, MZDI, MRR, AWG, MUX/DEMUX, OADM, ROADM, wavelength converter, All-optical regenerator, Optical switches.

MULTIPLEXING TECHNIQUES: WDM, OFDM

OPTICAL AMPLIFIER: Erbium doped fiber amplifier, semiconductor optical amplifier, Raman amplifier.

OPTICAL RECEIVER: Receiver sensitivity, quantum limit, coherent receiver.

Optical system performance and monitoring system: eye diagram, eye opening penalty, Q, BER, OSNR, OTDR.

LINK ANALYSIS: Single channel point to point, WDM point to point.

PULSE PROPAGATION IN OPTICAL FIBER: Nonlinear Schrodinger equation, split step Fourier method.

Reference Books:

1. Fiber-Optic Communication Systems, by Govind P. Agrawal
2. Optical Networks-A Practical Perspective, by Rajiv Ramaswami, Kumar Sivarajan and Galen Sasaki
3. Optical fiber communications by Gerd Keiser-McGraw Hill
4. Optical fiber communications: Principles and practice by John M. Senior-Prentice Hall of India

EC 902 C	Advanced Microwave Engineering
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Transmission Line Theory: Lumped element circuit model for transmission line, field analysis, Smith chart, quarter wave transformer, generator and load mismatch, impedance matching and tuning.

Microwave Waveguides & Components: Microwave Waveguides, Passive Components, Microwave resonators, power dividers and directional couplers, Ferromagnetic devices and components, Strip Lines, Microwave Tubes.

Microwave Semiconductor Devices & Modelling: PIN diode, Tunnel diodes, Varactor diode, Schottky diode, IMPATT and TRAPATT devices, transferred electron devices, Microwave BJTs, GaAs FETs, low noise and power GaAs FETs, MESFET, MOSFET, HEMT.

Microwave Network Analysis: Impedance and equivalent voltage and current, Impedance and admittance matrix, The scattering matrix, transmission matrix, Signal flow graph.

Monolithic Microwave Integrated Circuits: Materials, Monolithic Microwave Integrated-Circuit Growth, MOSFET Fabrication, Hybrid Integrated-Circuit Fabrication.

Reference Books:

1. Matthew M. Radmanesh, “Advanced RF & Microwave Circuit Design: The Ultimate Guide to Superior Design”, AuthorHouse, 2009.
2. D.M.Pozar, “Microwave engineering”, Wiley, 4th edition, 2011.
3. R.Ludwig and P.Bretchko, “R. F. Circuit Design”, Pearson Education Inc, 2009.
4. S.Y. Liao, “Microwave circuit Analysis and Amplifier Design”, Prentice Hall 1987.

EC- 1001 C	Optical Networks
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5. **Introduction:** Different kinds of attenuation in optical fiber, Optical bandwidth, Light Transmission in Optical Fibers, Signal Impairments Along the Lightpath; Optical Transmitters and Modulators, Optical Receivers.
6. **Optical Networking:** Introduction and Challenges: Advantages of optical network, WDM optical networks, WDM network evolution, WDM network construction, broadcast and select optical WDM network, wavelength routed optical WDM network.
7. **Optical Networking Components:** Couplers, Isolators & Circulators, Multiplexers & Filters, OLT, OADM, OXC, CLOS architecture, MEMS, wavelength convertors, Optical Line Amplifiers, Gratings, Bragg grating, Fiber Gratings, Arrayed waveguide gratings, Fabry-perot filters, thin-film filters, Mach-Zehnder interferometers.
8. **SONET/SDH:** SONET/SDH layers, Optical transport network, IP, routing and forwarding, MPLS.
9. **Network Survivability:** Basic concept, Protection in SONET/SDH, Protection in IP Network, Optical Layer Protection scheme.
10. **Optical switching:** Optical packet switching, header and packet format, optical burst switching.
11. **WDM Network Design:** The optical layer, Node Designs, Optical layer cost tradeoff, Lightpath topology design, Routing and wavelength assignment.
12. **Optical Access Network:** Optical time division multiplexing, Synchronization, buffering, Passive optical Network.
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14. **Reference Books:**
15. 1. Optical Networks-A Practical Perspective, by Rajiv Ramaswami, Kumar Sivarajan and Galen Sasaki, 3rd Edition
16. 2. WDM optical networks: concepts, design and algorithms- C.Sivarammurthy and Mohan Gurusamy- Prentice Hall of India, 2002
17. 3. Optical Networks, by Black, Miller L Scott, Muhammad Ali Mazidi

EC- 1002 C	Advanced Antennas & Radiating Systems
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Linear Wire Antennas: Basics of EM Theory, Infinitesimal dipole, Small dipole, Region separation, Finite length dipole, half wave dipole, Ground effects. Loop Antennas: Small Circular loop, Circular Loop of constant current, Circular loop with nonuniform current.

Types of Antennas: Wire antennas, Aperture antennas, Micro strip antennas, Array antennas Reflector antennas, Lens antennas, Radiation Mechanism, Current distribution on thin wire antenna. Fundamental Parameters of Antennas: Radiation Pattern, Radiation Power Density, Radiation Intensity, Directivity, Gain, Antenna efficiency, Beam efficiency, Bandwidth, Polarization, Input Impedance, radiation efficiency, Antenna Vector effective length, Friis Transmission equation, Antenna Temperature.

Linear Arrays: Two element array, N Element array: Uniform Amplitude and spacing, Broadside and End fire array, Super directivity, Planar array, Design consideration.

Aperture Antennas: Huygen's Field Equivalence principle, radiation equations, Rectangular Aperture, Circular Aperture.

Horn Antennas: E-Plane, H-plane Sectoral horns, Pyramidal and Conical horns.

Micro strip Antennas: Basic Characteristics, Feeding mechanisms, Method of analysis, Rectangular Patch, Circular Patch.

Reflector Antennas: Plane reflector, parabolic reflector, Cassegrain reflectors, Introduction to MIMO.

Reference Books:

1. Electromagnetic Waves & Radiating Systems, Jordon & Balmin
2. Antenna Theory: Analysis & Design, by Balanis
3. I.J.Bhal and P.Bhartia, "Micro-strip antennas", Artech house, 1980.

A	Advanced Communication Techniques
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Overview of Internet-Concepts, challenges and history: Overview of -ATM. TCP/IP Congestion and Flow Control in Internet-Throughput analysis of TCP congestion control. TCP for high bandwidth delay networks. Fairness issues in TCP.

Real Time Communications over Internet: Adaptive applications. Latency and throughput issues. Integrated Services Model (IntServ). Resource reservation in Internet. RSVP. Characterization of Traffic by Linearly Bounded Arrival Processes (LBAP). Leaky bucket algorithm and its properties.

Packet Scheduling Algorithms-requirements and choices: Scheduling guaranteed service connections. GPS, WFQ and Rate proportional algorithms. High speed scheduler design. Theory of Latency Rate servers and delay bounds in packet switched networks for LBAP traffic; Active Queue Management - RED, WRED and Virtual clock. Control theoretic analysis of active queue management.

IP address lookup-challenges: Packet classification algorithms and Flow Identification-Grid of Tries, Cross producting and controlled prefix expansion algorithms.

Admission control in Internet: Concept of Effective bandwidth. Measurement based admission control. Differentiated Services in Internet (DiffServ). DiffServ architecture and framework.

IPV4, IPV6, IP tunnelling: IP switching and MPLS, Overview of IP over ATM and its evolution to IP switching. MPLS architecture and framework. MPLS Protocols. Traffic engineering issues in MPLS.

Reference Books:

1. Zhang Wang, "Internet QoS", Morgan Kaufman, 2001.
2. George Kesidis, "ATM Network Performance", Kluwer Academic, Research Papers, 2005.

B	Remote Sensing
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Techniques for measuring the structure, content, properties and motions of the atmosphere by remote means. Interactions between propagated wave and the atmospheric medium. Scattering absorption and radiation of electromagnetic waves in microwave, between and optical spectrum. Application to measurement of temperature, humidities, rain, inversion layers, wave winds, turbulence etc.

Real-time processing of large volumes of data including high data rate signal and image processing, optical, acousto optical and optical and optical and optical-electronic hybrid processing, realtime pattern recognition processors for such airborne applications as target recognition, tracking, and terminal guidance.

Physical description of continuous image prosperities of the human visual system, sampling and quantization of imager, matrix representation of image forming and image processing systems, unitary transforms and image compression and image enhancement and restoration.

Volume scattering and emission theory. Radiation transfer method. Behaviour of various surfaces, vegetable connopies.

Principle of spectro radio metry, Meterological satellite system, radio meters, Infrared spectrometer and multispectral scanner, System on the LAND SAT satellites airborn scanner etc.

Reference Books:

1. Remote Sensing and GIS, Book by BasudebBhatta
2. Remote Sensing, Principles & Applications by by B. C. Panda

C	Statistical Information Processing
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Review of random variables: Probability Concepts, distribution and density functions, moments, independent, uncorrelated and orthogonal random variables; Vector-spacerepresentation of Random variables, Vector quantization, Tchebaychef inequality theorem, CentralLimit theorem, Discrete & Continuous Random Variables. Random process: Expectations, Moments, Ergodicity, Discrete-Time Random Processes Stationary process, autocorrelation and auto covariance functions, Spectral representation of random signals, Properties of power spectral density, Gaussian Process and White noise process.

Random signal modelling: MA(q), AR(p), ARMA(p,q) models, Hidden Markov Model & its applications, Linear System with random input, Forward and Backward Predictions, Levinson Durbin Algorithm.

Statistical Decision Theory: Bayes' Criterion, Binary Hypothesis Testing, M-ary Hypothesis Testing, Minimax Criterion, Neyman-Pearson Criterion, Composite Hypothesis Testing. Parameter Estimation Theory: Maximum Likelihood Estimation, Generalized Likelihood Ratio Test, Some Criteria for Good Estimators, Bayes' Estimation Minimum Mean-Square Error Estimate, Minimum, Mean Absolute Value of Error Estimate Maximum A Posteriori Estimate, Multiple Parameter Estimation Best Linear Unbiased Estimator, Least-Square Estimation Recursive Least-Square Estimator.

Spectral analysis: Estimated autocorrelation function, Periodogram, Averaging the periodogram (Bartlett Method), Welch modification, Parametric method, AR(p) spectral estimation and detection of Harmonic signals.

Information Theory and Source Coding: Introduction, Uncertainty, Information and Entropy, Source coding theorem, Huffman, Shanon Fano, Arithmetic, Adaptive coding, RLE, LZW Data compaction, LZ-77, LZ-78. Discrete Memory less channels, Mutual information, channel capacity, Channel coding theorem, Differential entropy and mutual information for continuous ensembles.

Application of Information Theory: Group, Ring & Field, Vector, GF addition, multiplication rules. Introduction to BCH codes, Primitive elements, Minimal polynomials, Generator polynomials in terms of Minimal polynomials, Some examples of BCH codes, & Decoder, Reed-Solomon codes & Decoder, Implementation of Reed Solomon encoders and decoders.

Reference books:

1. Rosen K.H, "Elementary Number Theory", Addison-Wesley, 6th edition, 2010.
2. R G. Gallager, "Information theory and reliable communication", Wiley, 1st edition, 1968.
3. Mourad Barkat, "Signal Detection and Estimation", Artech House, 2nd Edition, 2005.

XX	Cognitive Radio
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Introduction to Cognitive Radios: Digital dividend, cognitive radio (CR) architecture, functions of cognitive radio, dynamic spectrum access (DSA), components of cognitive radio, spectrum sensing, spectrum analysis and decision, potential applications of cognitive radio.

Spectrum Sensing: Spectrum sensing, detection of spectrum holes (TVWS), collaborative sensing, geo-location database and spectrum sharing business models (spectrum of commons, realtime secondary spectrum market).

Optimization Techniques of Dynamic Spectrum Allocation: Linear programming, convex programming, non-linear programming, integer programming, dynamic programming, stochastic programming.

Dynamic Spectrum Access and Management: Spectrum broker, cognitive radio architectures, centralized dynamic spectrum access, distributed dynamic spectrum access, learning algorithms and protocols.

Spectrum Trading: Introduction to spectrum trading, classification to spectrum trading, radio resource pricing, brief discussion on economics theories in DSA (utility, auction theory), classification of auctions (single auctions, double auctions, concurrent, sequential).

Research Challenges in Cognitive Radio: Network layer and transport layer issues, cross layer design for cognitive radio networks.

Reference books:

1. Bruce Fette, "Cognitive radio technology", Elsevier, 2nd edition, 2009.
2. Linda Doyle, "Essentials of Cognitive Radio", Cambridge University Press, 2009.

D	Laser and Optoelectronics
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Quantum Theory of Atomic Energy Levels – Radiative and Nonradiative decay of excited state atoms – Emission Broadening and linewidth – Radiation and Thermal equilibrium – Conditions for laser action – Laser Oscillation above threshold - Laser Amplifiers – Requirements for obtaining population inversion – Rate Equations for three and four level systems – Laser pumping requirements – Laser Cavity modes – Stable resonators – Gaussian beams- Special Laser Cavities – Q-switching and Mode locking – Generation of ultra fast Optical pulses- Pulse compression

Atomic Gas Lasers – He-Ne, Argon ion, He-Cd — Molecular Gas Lasers – CO₂, Excimer, Nitrogen—X-Ray Plasma Laser — Free-Electron Laser — Organic Dye lasers — Solid-state lasers – Ruby, Nd:YAG, Alexandrite, Ti:Sapphire

Electronic and Optical properties of semiconductors- electron-hole pair formation, PN Junction, diffusion, injection efficiency, quantum efficiency, homo-junction and hetero-junction, Excitation absorption, donor-acceptor and impurity band absorption, LED, Semiconductor lasers, Hetero-junction Lasers, quantum well lasers, VCSEL, DFB and DBR Lasers

Detection of Optical radiations – Basic Principle, Thermal detectors, Photomultipliers, photoconductive detectors, Photodiodes, Avalanche photodiodes, CCDs, Image Intensifiers, Arrays, Solar Cells, noise considerations

Optoelectronic Modulators – Basic principle, Birefringence, Optical Activity, EO, AO and MO Effects and modulators

Reference books:

1. Laser Fundamentals – W.T. Silfvast, Second Edition, Cambridge University Press, 2004
2. Principles of Lasers – O. Svelto, Fourth edition, Springer, 1998
3. Photonics: Optical Electronics in Modern Communications – A. Yariv and P. Yeh, Sixth Edition, Oxford University Press, 2007
4. Semiconductor Optoelectronic devices – Pallab Bhattacharya, Prentice Hall of India, 1995
5. Semiconductor Optoelectronics – Jasprit Singh, Tata McGraw Hill, 1995
6. Optoelectronics - an Introduction – Wilson and Hawkes, Prentice Hall, 1998

E	Computer Vision and Image Processing - Fundamentals and Applications
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Introduction to Computer Vision and Basic Concepts of Image Formation: Introduction and Goals of Computer Vision and Image Processing, Image Formation Concepts.

Fundamental Concepts of Image Formation: Radiometry, Geometric Transformations, Geometric Camera Models. Camera Calibration, Image Formation in a Stereo Vision Setup, Image Reconstruction from a Series of Projections.

Image Processing Concepts: Image Transforms. Image Processing Concepts: Image Transforms, Image Enhancement. Image Processing Concepts: Image Filtering, Colour Image Processing, Image Segmentation.

Image Descriptors and Features: Texture Descriptors, Colour Features, Edges/Boundaries. Object Boundary and Shape Representations.

Interest or Corner Point Detectors, Histogram of Oriented Gradients, Scale Invariant Feature Transform, Speeded up Robust Features, Saliency.

Fundamentals of Machine Learning: Linear Regression, Basic Concepts of Decision Functions, Elementary Statistical Decision Theory, Parameter Estimation, Clustering for Knowledge Representation, Dimension Reduction, Linear Discriminant Analysis. Applications of **Computer Vision:** Artificial Neural Network for Pattern Classification, Convolutional Neural Networks, Auto encoder, Machine Learning Algorithms and their Applications in Image Segmentation.

Applications of Computer Vision: Motion Estimation and Object Tracking, Gesture Recognition, Face and Facial Expression Recognition, Image Fusion.

Reference Books:

1. Forsyth & Ponce, “Computer Vision-A Modern Approach”, Pearson Education.
2. M.K. Bhuyan , “ Computer Vision and Image Processing: Fundamentals and Applications”, CRC Press.
3. Richard Szeliski, “Computer Vision- Algorithms & Applications”, Springer.

F	Wireless & Mobile Communication
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Cellular Communication Fundamentals: Cellular system design, Frequency reuse, cellsplitting, handover concepts, Co channel and adjacent channel interference, interference reduction techniques and methods to improve cell coverage, Frequency management and channelassignment. GSM architecture and interfaces, GSM architecture details, GSM subsystems, GSM Logical Channels, Data Encryption in GSM, Mobility Management, Call Flows in GSM. 2.5 G Standards: High speed Circuit Switched Data (HSCSD), General Packet Radio Service (GPRS), 2.75 G Standards: EDGE,

Spectral efficiency analysis based on calculations for Multiple access technologies: TDMA, FDMA and CDMA, Comparison of these technologies based on their signal separation techniques, advantages, disadvantages and application areas. Wireless network planning (Link budget and power spectrum calculations)

Mobile Radio Propagation: Large Scale Path Loss, Free Space Propagation Model, Reflection, Ground Reflection (Two-Ray) Model, Diffraction, Scattering, Practical Link Budget Design using Path Loss Models, Outdoor Propagation Models, Indoor Propagation Models, Signal Penetration into Buildings. Small Scale Fading and Multipath Propagation, Impulse Response Model, Multipath Measurements, Parameters of Multipath channels, Types of Small Scale Fading: Time Delay Spread; Flat, Frequency selective, Doppler Spread; Fast and Slow fading.

Equalization, Diversity: Equalizers in a communications receiver, Algorithms for adaptive equalization, diversity techniques, space, polarization, frequency diversity, Interleaving.

Code Division Multiple Access: Introduction to CDMA technology, IS 95 system Architecture, Air Interface, Physical and logical channels of IS 95, Forward Link and Reverse link operation, Physical and Logical channels of IS 95 CDMA, IS 95 CDMA Call Processing, soft Handoff, Evolution of IS 95 (CDMA One) to CDMA 2000, CDMA 2000 layering structure and channels.

Higher Generation Cellular Standards: 3G Standards: evolved EDGE, enhancements in 4G standard, Architecture and representative protocols, call flow for LTE, VoLTE, UMTS, introduction to 5G.

Reference Books:

1. V.K.Garg, "IS-95 CDMA & CDMA 2000", Pearson Education, 4th edition, 2009.
2. T.S.Rappaport, "Wireless Communications Principles and Practice", 2nd edition, PHI, 2002.

G	RFID
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Module 1: Automatic Identification Systems, Comparison of Different ID Systems, Components of an RFID System, Fundamental Differentiation Features, Transponder Construction Formats, Frequency, Range and Coupling, Active and Passive Transponders, Information Processing in the Transponder, Selection Criteria for RFID Systems, 1-Bit Transponder, Full- and Half-Duplex Procedure, Sequential Procedures, Near-Field Communication (NFC).

Module 2: Frequency Ranges and Radio Licensing Regulations, European Licensing Regulations, National Licensing Regulations in Europe – Germany, National Licensing Regulations – USA, Comparison of National Regulations, Full active transponders, Spectrum use and performance limitations, Data formats, encoding methods and standards, Data integrity and security for RFID,

Module 3: Data Flow in an Application, Components of a Reader, Integrated Reader ICs, Connection of Antennas for Inductive Systems, Reader Designs, Near-Field Communication, Glass and Plastic Transponders.

Module 4: ISO/IEC 69873 – Data Carriers for Tools and Clamping Devices, ISO/IEC 10374 – Container Identification, VDI 4470 – Anti-theft Systems for Goods, Item Management, Contactless Smart Cards, Public Transport, Contactless Payment Systems, NFC Applications, Electronic Passport, Ski Tickets, Access Control, Transport Systems, Animal Identification, FCC Rules for ISM Band, Identity, Standards, and Guidelines for Securing RFID Systems.

Reference Books:

1. Klaus Finkenzeller, 'RFID Handbook', Wiley, 2nd edition, 2003.
2. RFID Systems: Research Trends and Challenges, by Bolic M., Simplot-Ryl D., Stojmenovic I., 1st edition, 2011.

H	DSP and Communication networking
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Short introduction- Discrete time systems & signals, z-transform, difference equation, filter design by transformation-impulse and step invariant, bi-linear z-transform, matched z-transform, discrete Fourier transform, state variable model. FIR filter design, frequency windowing technique, Chebyshev and Butterworth criterion. Filter performance and design in presence of noise, FIR filters banks-sub band decomposition. Inverse filtering, Deconvolution, signal reconstruction, time frequency analysis- STFT, WT, DSP hardware-design methodologies, popular architectures and overview of programming application notes. Filter implementation: topology, scaling, co-efficient quantization error, signal quantization, sensitivity analysis.

Reference Books:

1. Li Tan, "Digital Signal Processing", Elsevier, 2011.
2. A.V. Oppenheim and Schaffer, "Discrete Time Signal Processing", Prentice Hall, 1989.

I	Digital Communication Networks and Protocol
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Short introduction- Discrete time systems & signals,z-transform,difference equation,filter design by transformation-impulse and step invariant, bi-linear z-transform,matched z transform, signal model-AR,MA,ARMA,state variable model,lattice structure.

FIR filter design:frequency windowing technique,equi ripple chebyshev&butterworth criterion. Filter performance and design in presence of noise,FIR filters banks-subband decomposition.Inverse filtering deconvolution and equalization techniques- Weiner,linear prediction etc.,

Signal reconstruction: time frequency analysis STFT, WT,DSP hardware-design methodologies,popular architectures and overview of programming application notes.filter implementation: topology,scaling, co-efficient quantization,signal quantization,sensitivity analysis.Overview of communication & networking

Reference Books:

1. J.G. Proakis, Manolakis “Digital Signal Processing”, Pearson, 4th Edition
2. A. K. Jain, “Fundamentals of Digital Image Processing”, Prentice Hall

J	Artificial Intelligence & Soft Computing
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Reasoning, Machine Learning, Intelligent Search, Intelligent Planning, Perception, Applications in Expert Systems, Machine Vision and Robotics, Control, Signal Processing and Pattern Recognition. Applications in System Design, Prediction, Optimization and Identification problems, Use of Fuzzy Logic, Neurocomputing and Evolutionary Algorithms in the above problems.

Reference Books:

1. Artificial Intelligence & Soft Computing by Amit Konar
2. Artificial Intelligence & Soft Computing for beginners by Anindita Das

K	Digital image processing
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Introduction and signal digitization, Pixel relationship, Camera models & imaging geometry, Image interpolation, Image transformation, Image enhancement, Image restoration, Image registration, Colour image processing, Image segmentation, Morphological image processing, Object representation ,description and recognition.

Books and References:

1. Digital Image Processing by Rafael C Gonzalez & Richard E Woods, 3rd Edition
2. Fundamentals of Digital Image Processing by Anil K Jain
3. Digital Image Processing by William K Pratt

L	Satellite Communication
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Architecture of Satellite Communication System: Principles and architecture of satelliteCommunication, Brief history of Satellite systems, advantages, disadvantages, applications, andfrequency bands used for satellite communication and their advantages/drawbacks.

Orbital Analysis: Orbital equations, Kepler’s laws of planetary motion, Apogee and Perigee for an elliptical orbit, evaluation of velocity, orbital period, angular velocity etc of a satellite, concepts of Solar day and Sidereal day.

Satellite sub-systems: Architecture and Roles of various sub-systems of a satellite system such as Telemetry, tracking, command and monitoring (TTC & M), Attitude and orbit control system (AOCS), Communication sub-system, power sub-systems, antenna sub-system.

Typical Phenomena in Satellite Communication: Solar Eclipse on satellite, its effects, remedies for Eclipse, Sun Transit Outage phenomena, its effects and remedies, Doppler frequency shift phenomena and expression for Doppler shift.

Satellite link budget: Flux density and received signal power equations, Calculation of System noise temperature for satellite receiver, noise power calculation, Drafting of satellite link budget and C/N ratio calculations in clear air and rainy conditions, Case study of Personal Communication system (satellite telephony) using LEO.

Modulation and Multiple Access Schemes used in satellite communication: Typical case studies of VSAT, DBS-TV satellites and few recent communication satellites launched by NASA/ISRO. GPS.

Reference Books:

1. Dennis Roddy, “Satellite Communication”, McGraw Hill, 4th Edition, 2008.
2. Tri T. Ha, “Digital Satellite Communications”, Tata McGraw Hill, 2009.
3. Timothy Pratt and Others, “Satellite Communications”, Wiley India, 2nd edition, 2010.

M	Internet of Things (IoT)
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Smart cities and IoT revolution: Fractal cities, From IT to IoT, M2M and peer networking concepts, Ipv4 and IPV6.

Software Defined Networks SDN: From Cloud to Fog and MIST networking for IoT communications, Principles of Edge/P2P networking, Protocols to support IoT communications, modular design and abstraction, security and privacy in fog.

Wireless sensor networks: introduction: IOT networks (PAN, LAN and WAN), Edge resource pooling and caching, client side control and configuration.

Smart objects as building blocks for IoT: Open source hardware and Embedded systems platforms for IoT, Edge/gateway, IO drivers, C Programming, multithreading concepts.

Operating systems requirement of IoT environment: study of mbed, RIoT, and Contiki operating systems, introductory concepts of big data for IoT applications.

Applications of IoT: Connected cars IoT Transportation, Smart Grid and Healthcare sectors using IoT, Security and legal considerations, IT Act 2000 and scope for IoT legislation.

Reference Books:

1. A Bahaga, V. Madiseti, “Internet of Things- Hands on approach”, VPT publisher, 2014.
2. A. McEwen, H. Cassimally, “Designing the Internet of Things”, Willey, 2013.
3. Samuel Greenguard, “Internet of things”, MIT Press, 2015.

N	Modern Data Transmission Technology
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Network Design Issues: Network Performance Issues, Network Terminology, centralized and distributed approaches for networks design, Issues in design of voice and data networks.

Layered and Layer less Communication: Cross layer design of Networks, Voice Networks (wired and wireless) and Switching, Circuit Switching and Packet Switching, Statistical Multiplexing.

Data Networks and their Design: Link layer design- Link adaptation, Link Layer Protocols, Retransmission Mechanisms (ARQ), Hybrid ARQ (HARQ), Go Back N, Selective Repeat protocols and their analysis.

Queuing Models of Networks : Traffic Models , Little's Theorem, Markov chains, M/M/1 and other Markov systems, Multiple Access Protocols , Aloha System , Carrier Sensing , Examples of Local area networks,

Inter-networking: Bridging, Global Internet , IP protocol and addressing , Sub netting ,Classless Inter domain Routing (CIDR) , IP address lookup , Routing in Internet. End to EndProtocols, TCP and UDP. Congestion Control, Additive Increase/Multiplicative Decrease , SlowStart, Fast Retransmit/ Fast Recovery,
Congestion avoidance: RED TCP Throughput Analysis, Quality of Service in Packet Networks. Network Calculus, Packet Scheduling Algorithms.

Reference Books:

1. D. Bertsekas and R. Gallager, “Data Networks”, 2nd Edition, Prentice Hall, 1992.
2. Walrand, “Communications Network: A First Course”, 2nd Edition, McGraw Hill, 2002.

XX	Software Defined Networking
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Introduction to Programmable Networks, History and Evolution of Software Defined Networking (SDN), Fundamental Characteristics of SDN, Separation of Control Plane and Data Plane, Active Networking. Control and Data Plane Separation: Concepts, Advantages and Disadvantages, the basics of OpenFlow protocol. Network Virtualization: Concepts, Applications, Existing Network Virtualization Framework, Mininet A simulation environment for SDN. Overview, Existing SDN Controllers including Floodlight and OpenDaylight projects. Customization of Control Plane: Switching and Firewall Implementation using SDN Concepts. Data Plane: Software-based and Hardware-based; Programmable Network Hardware. Programming SDNs: Northbound Application Programming Interface, Current Languages and Tools, Composition of SDNs. Network Functions Virtualization (NFV) and Software Defined Networks: Concepts, Implementation and Applications. Data Center Networks: Packet, Optical and Wireless Architectures, Network Topologies. Use Cases of SDNs: Data Centers, Internet Exchange Points, Backbone Networks, Home Networks, Traffic Engineering

Reference Books:

1. Thomas D. Nadeau, Ken Gray, “SDN: Software Defined Networks, An Authoritative Review of Network Programmability Technologies”, O’Reilly Media, August 2013.
2. Paul Goransson, Chuck Black, Timothy Culver. “Software Defined Networks: A Comprehensive Approach”, Morgan Kaufmann Publishers, 2016.
3. Fei Hu, “Network Innovation through OpenFlow and SDN: Principles and Design”, CRC Press, 2014.
4. Vivek Tiwari, “SDN and OpenFlow for Beginners”, Amazon Digital Services, Inc., ASIN: , 2013.
5. Nick Feamster, Jennifer Rexford and Ellen Zegura, “The Road to SDN: An Intellectual History of Programmable Networks” ACM CCR April 2014.
6. Open Networking Foundation (ONF) Documents, <https://www.opennetworking.org>, 2015.
7. OpenFlow standards, <http://www.openflow.org>, 2015.

O	Modern Digital Communication Techniques
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Introduction to digital communication systems, Source Coding Characterization of Communication Signals & Systems Signal space Representation, Representation of Memory less Modulation Methods Nonlinear modulation methods, Optimal receivers of AWGN Receiver for non-ideal channel, Probability of error of different modulation schemes, Fundamentals of estimation and detection theory used in digital communication, Carrier phase and symbol timing synchronization techniques, Channel estimation and equalization techniques, Power Adaptation methods for colored noise channel.

Reference books:

1. Digital Communications by John G. Proakis.
2. Digital Communications by Bernard Sklar.
3. Digital Communications by Robert Gallager.

4. Digital Communications by Simon Haykin.
5. Modern Digital and Analog communications by B.P. Lathi

P	Introduction to Coding Theory
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Introduction to error control coding, Introduction to linear block codes, generator matrix and parity check matrix, Properties of linear block codes: Syndrome, error detection
 Decoding of linear block codes, Distance properties of linear block codes
 Some simple linear block codes: Repetition codes, Single parity check codes, Hamming codes, Reed Muller codes, Bounds on size of codes: Hamming bound, Singleton bound, Plotkin bound, Gilbert-Varshamov bound
 Low density parity check codes, Decoding of low density parity check codes-I: Belief propagation algorithm on BEC, Decoding of low density parity check codes-I: Belief propagation algorithm on BSC and AWGN channels
 Introduction to convolutional codes-I: Encoding, state diagram, trellis diagram, Introduction to convolutional codes-II: Classification, realization, distance properties, Decoding of convolutional codes-I: Viterbi algorithm
 Decoding of convolutional codes-II: BCJR algorithm, Performance bounds for convolutional codes
 Turbo codes, Turbo decoding
 Distance properties of turbo codes, Convergence of turbo codes, Applications of linear codes

Reference Books:

1. "Error Control Coding", by Shu Lin and Daniel J. Costello, Jr., second edition, Prentice Hall, 2004.
2. Todd K. Moon, "Error Correction Coding", 1st Edition, Wiley-Interscience, 2006.
3. F. J. MacWilliams, N. J. A. Sloane, "The Theory of Error-Correcting Codes", North-Holland, Amsterdam, 1977
4. R. E. Blahut, "Algebraic Codes for Data Transmission", 1st Edition, Cambridge University Press 2003.
5. Cary W. Huffman, Vera Pless, "Fundamentals of Error-Correcting Codes", 1st Edition, Cambridge University Press, 2003.
6. Rolf Johannesson and Kamil Sh. Zigangirov, "Fundamentals of Convolutional Coding", IEEE Press, 1999.

Q	Mathematical Methods And Techniques In Signal Processing
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Review of vector spaces, inner product spaces, orthogonal projections, state variable representation, Review of probability and random processes, Signal geometry and applications
 Sampling theorems multirate signal processing decimation and expansion
 Sampling rate conversion and efficient architectures, design of high decimation and interpolation filters, Multistage designs.
 Introduction to 2 channel QMF filter bank, M-channel filter banks, overcoming aliasing, amplitude and phase distortions.
 Subband coding and Filter Designs: Applications to Signal Compression
 Introduction to multiresolution analysis and wavelets, wavelet properties
 Wavelet decomposition and reconstruction, applications to denoising
 Derivation of the KL Transform, properties and applications.
 Topics on matrix calculus and constrained optimization relevant to KL Transform derivations.
 Fourier expansion, properties, various notions of convergence and applications.

Reference Books:

1. Moon & Stirling, Mathematical Methods and Algorithms for Signal Processing, Prentice Hall, 2000.
2. P. P. Vaidyanathan, Multirate systems and filter banks, Prentice Hall, 2000.
3. A. Boggess & F. J. Narcowich, A First Course in Wavelets with Fourier Analysis, Prentice Hall, 2001.
4. G. Strang, Introduction to Linear Algebra, 2016.
5. H. Stark & J. W. Woods, Probability and Random Processes with Applications to Signal Processing, 2014.

R	Photonic integrated circuit
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Review of Electromagnetic Waves, Photonic integrated circuits: an introduction, Material technology for integrated optics, Introduction to guided wave optics, Integrated optical waveguide design, Coupling light in a waveguide

system, Integrated photonic Passive devices, Integrated photonic Active devices, Semiconductor Light sources and Photodetectors, Material engineering and fabrication, A Photonic integrated circuit technology: Silicon, III-V and beyond, Application of Photonic circuit in Communication and Sensing

Reference Books:

1. Fundamentals of Photonics, B.E.A Saleh and M.C. Teich, Wiley, New York, 1991
2. Photonic Devices. Cambridge, J. Liu, Cambridge University Press, 2005.
3. Fundamentals of Optoelectronics, Clifford R. Pollock, Irwin, 1995.
4. Diode Lasers and Photonic Integrated Circuits, Larry A. Coldren Scott W. Corzine Milan L. Mašanović, Wiley-Interscience.

T	EMI/EMC
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Natural and Nuclear sources of EMI / EMC : Introduction, Electromagnetic environment, History, Concepts, Practical experiences and concerns, frequency spectrum conservations. An overview of EMI / EMC, Natural and Nuclear sources of EMI.

EMI from apparatus, circuits and open area test sites : Electromagnetic emissions, noise from relays and switches, non-linearities in circuits, passive intermodulation, crosstalk in transmission lines, transients in power supply lines, electromagnetic interference (EMI). Open area test sites and measurements.

Radiated and conducted interference measurements: Anechoic chamber, TEM cell, GH TEM Cell, characterization of conduction currents / voltages, conducted EM noise on power lines, conducted EMI from equipment, Immunity to conducted EMI detectors and measurements. UNIT-IV:ESD, Grounding, shielding, bonding and EMI filters : Principles and types of grounding, shielding and bonding, characterization of filters, power lines filter design. ESD, Electrical fast transients / bursts, electrical surges.

Cables, connectors, components: Introduction, EMI suppression cables, EMC connectors, EMC gaskets, Isolation transformers, opto-isolators, Transient and Surge Suppression Devices.

EMC standards- National / International .: Introduction, Standards for EMI and EMC, MIL Standards, IEEE/ANSI standards, CISPR/IEC standards, FCC regulations, Euro norms, British Standards, EMI/EMC standards in JAPAN, Conclusions.

Reference Books:

1. Engineering Electromagnetic Compatibility by Dr. V.P. Kodali, IEEE Publication, Printed in India by S. Chand & Co. Ltd., New Delhi,2000.
 2. Electromagnetic Interference and Compatibility IMPACT series, IIT – Delhi, Modules 1 – 9.
- References:
- 3.Introduction to Electromagnetic Compatibility, NY, John Wiley, 1992, by C.R. Pal.

U	MIMO Communication Systems
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Introduction to Multi-antenna Systems: Motivation, Types of multi-antenna systems, MIMO vs. multi-antenna systems.

Diversity: Exploiting multipath diversity, Transmit diversity, Space-time codes, The Alamouti scheme, Delay diversity, Cyclic delay diversity, Space-frequency codes, Receive diversity, The rake receiver, Combining techniques, Spatial Multiplexing, Spectral efficiency and capacity, Transmitting independent streams in parallel, Mathematical notation

The generic MIMO problem: Singular Value Decomposition, Eigenvalues and eigenvectors, Equalising MIMO systems, Disadvantages of equalising MIMO systems, Predistortion in MIMO systems, Disadvantages of pre distortion in MIMO systems, Pre-coding and combining in MIMO systems, Advantages of pre-coding and combining, Disadvantages of precoding and combining, Channel state information.

Codebooks for MIMO: Beamforming, Beamforming principles, Increased spectrum efficiency, Interference cancellation, Switched beamformer, Adaptive beamformer, Narrowband beamformer, Wideband beamformer

Case study: MIMO in LTE, Codewords to layers mapping, Pre-coding for spatial multiplexing, Pre-coding for transmit diversity, Beamforming in LTE, Cyclic delay diversity based pre-coding, Pre-coding codebooks, Propagation Channels, Time & frequency channel dispersion, AWGN and multipath propagation channels, Delay spread values and time variations, Fast and slow fading environments, Complex baseband multipath channels, Narrowband and wideband channels, MIMO channel models

Channel Estimation: Channel estimation techniques, Estimation and tracking, Trainingbased channel estimation, Blind channel estimation, Channel estimation architectures, Iterativechannel estimation, MMSE channel estimation, Correlative channel sounding, Channel estimationin single carrier systems, Channel estimation for CDMA, Channel estimation for OFDM.

Reference Books:

1. I.J.Bhal and P.Bhartia, “Micro-strip antennas”, Artech house, 1980.
2. R.C.Johnson and H.Jasik, “Antenna Engineering hand book”, Mc-Graw Hill, 1984.
3. John D Kraus, Ronald J Marhefka, Ahmad S Khan, “Antennas for All Applications”,TataMcgraw-hill.

XX	Network Security and Cryptography
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Network Security: Introduction, Basic Security Concepts, Threats, Vulnerabilities, and Attacks, Encryption, Digital Signatures, and Certification Authorities, Kerberos Key Exchange, Encryption on the World Wide Web, E-Mail Security, Operating System Security, LAN Security, Media and Protocols, Routers and SNMP, Virtual Private Networks, Firewalls, Biometrics, Policies and Procedures, Auditing, Monitoring, and Intrusion Detection, Crisis Management, Cookies and Cache, Security of Web-based Systems.

Reference Books:

1. William Stallings, “Cryptography and Network Security, Principles and Practices”, Pearson Education, 3rd Edition.
2. Christopher M. King, ErtemOsmanoglu, Curtis Dalton, “Security Architecture,Design Deployment and Operations”, RSA Press.

V	VLSI design
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MOS TRANSISTOR THEORY: NMOS and PMOS transistors, CMOS logic, MOS transistor theory – Introduction, Enhancement mode transistor action, Ideal I-V characteristics, DC transfer characteristics, Threshold voltage Body effect- Design equations- Second order effects. MOS models and small signal AC characteristics, Simple MOS capacitance Models, Detailed MOS gate capacitance model, Detailed MOS Diffusion capacitance model.

CMOS TECHNOLOGY AND DESIGN RULE: CMOS fabrication and Layout, CMOS technologies, P -Well process, N -Well process, twin -tub process, MOS layers stick diagrams and Layout diagram, Layout design rules, Latch up in CMOS circuits, CMOS process enhancements, Technology – related CAD issues, Fabrication and packaging.

INVERTERS AND LOGIC GATES : NMOS and CMOS Inverters, Inverter ratio, DC and transient characteristics , switching times, Super buffers, Driving large capacitance loads, CMOS logic structures , Transmission gates, Static CMOS design, dynamic CMOS design.

CIRCUIT CHARACTERISATION AND PERFORMANCE ESTIMATION: Resistance estimation, Capacitance estimation, Inductance, switching characteristics, transistor sizing, power dissipation and design margining. Charge sharing .Scaling.

VLSI SYSTEM COMPONENTS CIRCUITS AND SYSTEM LEVEL PHYSICAL DESIGN: Multiplexers, Decoders, comparators, priority encoders, Shift registers. Arithmetic circuits – Ripple carry adders, Carry look

ahead adders, High-speed adders, Multipliers. Physical design – Delay modelling ,crosstalk, floor planning, power distribution. Clock distribution. Basics of CMOS testing.

Reference Books:

1. Neil H.E. Weste and Kamran Eshraghian, Principles of CMOS VLSI Design, Pearson Education ASIA, 2nd edition, 2000.
2. John P.Uyemura “Introduction to VLSI Circuits and Systems”, John Wiley & Sons, Inc., 2002.
3. Eugene D.Fabricius, Introduction to VLSI Design McGraw Hill International Editions, 1990.
4. Pucknell, “Basic VLSI Design”, Prentice Hall of India Publication, 1995. 5. Wayne Wolf “Modern VLSI Design System on chip. Pearson Education, 2002.

W	Broadband Network and Network Management
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Synchronous and Asynchronous Networks, Optical Fiber based Backbone and Information Superhighways, SONET & SDH standards. IP over SONET and WDM, STS & STM Framing, ATM and STM systems, ATM Layers. User Network & Network-Network Interfaces. Virtual paths and Virtual circuits, Cell Loss Effects, Intelligent Networks. Network Management and Control, TMN Architecture and Functional Requirements. Interface and Protocol Requirements, Information Modeling and Model representations. System Management Functions, OSI System Management, Internet SNMP, ODP/OMG. COBRA as technologies for TMN.

Reference Books:

1. Network Management: Principles and Practice 2nd Edition, Kindle Edition

X	Advanced Microprocessors and Microcontrollers
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Intel 8086 (16-bit): Architecture, addressing modes, instruction set, assembler and crossassembler, input-output, system design using 8086. Intel 80386 and upgrades (32-bit): Basic programming model, addressing modes, instruction set, memory and I/O management, math coprocessor, upgrades of the 80386. A typical 16-bit microcontroller with RISC architecture and integrated A-D converter e.g. PIC18Cxxx family: advantages of Harvard architecture, instruction pipeline, analog input, PWM output, serial I/O, timers, in-circuit and self programmability. Instruction set. Typical application. Development tools.

Books and References:

1. Barry B. Brey, The Intel Microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Pentium pro Processor, Pentium II, Pentium III, Pentium 4, and Core2 ... - Architecture, Programming, and Interfacing.
2. Nilesh B. Bahadure, Microprocessors: The 8086/8088, 80186/ 80286, 80386/80486 and the Pentium Family.
3. Muhammad Ali Mazidi, PIC Microcontroller and Embedded Systems: Using assembly and C for PIC 18, 1e Paperback – 1 January 2008 by (Author)

Y	Advanced Mathematical Techniques
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Linear Mathematics: Matrices (types and operations including elementary row and column operations), inverse; Determinants (rules of computation); Linear Equations and Cramer’s rule; Vector space (concepts of

span/basis/dimension); Eigen values and Eigen vectors; Linear Programming (Graphical and Simplex solution); First order Difference equation (First order equations and solution).

Vector Calculus: Laws of vector algebra, operations- dot, cross, triple products; Vector function – limits, continuity and derivatives, geometric interpretation; Gradient, divergence and curl – formulae; Orthogonal curvilinear coordinates; Jacobians, gradient, divergence, curl and Laplacian in curvilinear coordinates; Special curvilinear coordinates. Gauss's divergent theorem, Green's theorem, Stoke's theorem.

Complex Numbers: Functions Analysis including limits and continuity, derivatives; Cauchy Riemann Equations; Integrals, Cauchy theorem and Cauchy integral formulae; Analytic Functions; Taylor's series, Singular points and poles; Laurent's Series, Residues, Residue Theorem; Conformal mapping, Riemann's mapping theorem; Some general transformations, mapping a half plane into a circle; The Schwarz-Christoffel transformation; The solution of Laplace equation by conformal mapping.

Differential equations: of higher order, existence and uniqueness of solutions; Some engineering applications (mechanics and electric circuits); Numerical methods for solutions; General Linear Differential Equation of order n; Linear Operators; Fundamental theorem on linear differential equations; Solutions for constant coefficients; The nonoperator techniques; The complementary solution of homogeneous equation, the particular solution; Method of reduction of order and inverse operators; Linear equations with variable coefficients; Simultaneous differential equations; Applications.

Laplace Transforms: Transforms of elementary functions, transforms of derivatives and derivatives of transforms, inverse transforms, transforms of periodic functions, unit step function, shifting theorems, solutions of ODE's using Laplace transforms.

Numerical Analysis: Determination of roots of polynomials and transcendental equations by Newton-Raphson, Secant method and the method of Falsi position. Solutions of linear simultaneous linear algebraic equations by Gauss Elimination and Gauss- Siedal iteration methods. Curve fitting – linear and nonlinear regression analysis. Backward, Forward and Central difference relations and their uses in Numerical differentiation and integration(Trapezoidal, Simpson's 1/3-rd & 3/8-th and Weddles rule), Applications of difference relations in the solution of partial differential equations. Numerical solution of ordinary differential equations by Euler, Modified Euler, Runge-Kutta and Predictor-Corrector method.

Books & References:

1. Advanced Engineering Mathematics- H. K. Dass, S. Chand & Comp.
2. Engineering Mathematics-B,S, Grewal, Khanna Publisher.
3. Engineering Mathematics- K.C. Das & B. K. Pal, U. N. Dhur& sons-Vol. I, II, III
4. Thomas G.B and Finney, R. L. “ Calculas and Analytic Geometry”, 6th AditionWesley/Narosa, 1985
Piskunov, “ Differential and Integral Calculus”, Vol-I & II, Mir Publishers, Moscow, 1979.

XX	Antenna Analysis & Synthesis
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Theories of radiation, Kirchoff's principles, Schelkunoff's equivalent principles. Integral transform methods, Green's function, Linear antennas as boundary value probe current distribution and impedance.

Radiation from apertures, general formulas for scattering and diffraction in and effective area of apertures. Different kind of aperture antennas. Reflector antennas. Appropriate methods for solving reflector antenna problems. Primary feed system design, Shaped beam antennas.

Cassegrain antenna system. Antenna array analysis and synthesis. Synthesis optimizations, Phased arrays. Integrated antennas.

Books and References:

Constantine A. Balanis, Antenna Theory: Analysis and Design, 4th Edition.

Sanjay Kumar, SaurabhShukla, Wave Propagation and Antenna Engineering

Z	Electronic System Design
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Signal Conditioning, Instrumentation and isolation amplifiers, analog filters and analog switches. Signal measurement in the presence of noise: synchronous detection, signal averaging. Noise in electronic systems: design of low noise circuits.

Interfacing of analog and digital circuits. Programmable circuits, architecture of a typical FPGA and its application. Case studies. A/D and D/A conversion: sampling and quantization, antialiasing and smoothing filters. Switched capacitor circuits and applications.

Books and References:

Jens Lienig , Hans Bruemmer, Fundamentals of Electronic Systems Design 1st ed. 2017 Edition.

XX	Discrete mathematics
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Logic: Proposition and Predicate Logic, introduction to proof techniques, Advanced proof techniques, resolution, induction, Set theory and relations, Various types of relations and functions, Combinatorics Part I: permutations, combinations, sum rule, product rule, pigeon-hole principle, Ramsey numbers, Combinatorics Part II: Combinatorial proofs, Catalan numbers, counting using recursion, principal of inclusion-exclusion, advanced counting techniques, Recurrence equations and various methods of solving recurrence equations, Cardinality theory, countable and uncountable sets, Cantors diagonalization, uncomputable functions, Graph theory Part I: basic definitions, Eulers theorem, bipartite graphs and matching, Halls marriage theorem, various operations on graphs, Graph theory part II: isomorphism, vertex-connectivity, edge-connectivity, Euler graphs and Hamiltonian graphs, various characterizations, vertex and edge coloring, Abstract algebra: groups, rings, fields, Basic number theory: modular arithmetic, prime numbers and properties, GCD, Chinese remainder theorem, Fermats little theorem, RSA cryptosystem.

Books and References:

1. Kenneth Rosen, Discrete Mathematics and Its Applications Seventh Edition.
2. Kenneth H. Rose, Discrete Mathematics and Its Applications: With Combinatorics and Graph Theory.