

**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR
WEST BENGAL, INDIA**



**53RD SENATE MEETING
DATE: 13TH MAY, 2019
TIME: 11.00 AM
VENUE: SENATE ROOM**

MINUTES

The meeting was attended by the following members:

1. **Prof. Anupam Basu** : Chairman
Director & Chairman – Senate
NIT Durgapur
2. **Prof. Siddhartha Sen** : External
Professor, Member
Electrical Engineering Department, IIT-Kharagpur
3. **Prof. A. Raychaudhuri** : External
Professor, Department of Economics Member
Jadavpur University, Kolkata
4. **Mr. B. Bhattacharya** : Invitee
Alumni Representative Member
5. **Prof. S. Chattopadhyay** Department of Biotechnology : Member
NIT Durgapur
6. **Prof. A. Dey** : Member
Department of Biotechnology
NIT Durgapur
7. **Prof. Dalia Dasgupta Mandal** : Member
Head, Department of Biotechnology
NIT Durgapur
8. **Prof. K. Aikat** : Member
Department of Biotechnology
NIT Durgapur
9. **Prof. Surabhi Chaudhuri** : Member
Department of Biotechnology
NIT Durgapur
10. **Prof. S.S. Mukhopadhyay** : Member
Department of Biotechnology
NIT Durgapur
11. **Prof. B.P. Mukhopadhyay** : Member
Department of Chemistry
NIT Durgapur
12. **Prof. D. Sukul** : Member
Department of Chemistry
NIT Durgapur
13. **Prof. A.K. Patra** : Member
Department of Chemistry
NIT Durgapur
14. **Prof. M. Maji** : Member
Department of Chemistry
NIT Durgapur
15. **Prof. Rajnarayan Saha** : Member
Department of Chemistry
NIT Durgapur

Soumya Sen

16. **Prof. S.C. Moi** : Member
Department of Chemistry
NIT Durgapur
17. **Prof. P. Gupta** : Member
Department of Chemical Engineering
NIT Durgapur
18. **Prof. P. Pal** : Member
Department of Chemical Engineering
NIT Durgapur
19. **Prof. K. C. Ghanta** : Member
Department of Chemical Engineering
NIT Durgapur
20. **Prof. T. Mandal** : Member
Department of Chemical Engineering
NIT Durgapur
21. **Prof. S. Dutta** : Member
Head, Department of Chemical Engineering
NIT Durgapur
22. **Prof. D.K. Singha Roy** : Member
Department of Civil Engineering
NIT Durgapur
23. **Prof. P. Ray** : Member
Department of Civil Engineering
NIT Durgapur
24. **Prof. K. Bhattacharya** : Member
Department of Civil Engineering
NIT Durgapur
25. **Prof. A. Das** : Member
Department of Civil Engineering
NIT Durgapur
26. **Prof. S. Saha** : Member
Department of Civil Engineering
NIT Durgapur
27. **Prof. V.K. Dwivedi** : Member
Department of Civil Engineering
NIT Durgapur
28. **Prof. S. Bhattacharya** : Member
Department of Civil Engineering
NIT Durgapur
29. **Prof. A. K. Banik** : Member
Department of Civil Engineering
NIT Durgapur
30. **Prof. A. K. Samanta** : Member
Head, Department of Civil Engineering
NIT Durgapur

Loungyasa Sharma

31. **Prof. G. Sanyal** : Member
Department of Computer Science & Engineering
NIT Durgapur
32. **Prof. T. Pal** : Member
Head, Department of Computer Science & Engineering
NIT Durgapur
33. **Prof. S. Roy** : Member
Department of Computer Science & Engineering
NIT Durgapur
34. **Prof. D. Nandi** : Member
Department of Computer Science & Engineering
NIT Durgapur
35. **Prof. S. Choudhury** : Member
Department of Computer Science & Engineering
NIT Durgapur
36. **Prof. S. Nandi** : Member
Department of Computer Science & Engineering
NIT Durgapur
37. **Prof. Mousumi Roy** : Member
Department of Management Studies
NIT Durgapur
38. **Prof. Avijan Dutta** : Member
Department of Management Studies
NIT Durgapur
39. **Prof. A. K. Bhattacharjee** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
40. **Prof. G. K. Mahanti** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
41. **Prof. S. Kundu** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
42. **Prof. R. Ghatak** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
43. **Prof. A.K. Mal** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
44. **Prof. R. Mahapatra** : Member
Department of Electronics & Communication Engineering
NIT Durgapur
45. **Prof. S.S. Thakur** : Member
Department of Electrical Engineering
NIT Durgapur

Sanyasa Thakur

46. **Prof. N.K. Roy** : Member
Department of Electrical Engineering
NIT Durgapur
47. **Prof. S. Banerjee** : Member
Department of Electrical Engineering
NIT Durgapur
48. **Prof. P. Acharjee** : Member
Head, Department of Electrical Engineering
NIT Durgapur
49. **Prof. T.K. Saha** : Member
Department of Electrical Engineering
NIT Durgapur
50. **Prof. S.N. Mahato** : Member
Department of Electrical Engineering
NIT Durgapur
51. **Prof. C. Koley** : Member
Department of Electrical Engineering
NIT Durgapur
52. **Prof. P.P. Sengupta** : Member
Department of Humanities & Social Sciences
NIT Durgapur
53. **Prof. Kajla Basu** : Member
Head, Department of Humanities & Social Sciences
Department of Mathematics
NIT Durgapur
54. **Prof. Seema Sarkar (Mondal)** : Member
Department of Mathematics
NIT Durgapur
55. **Prof. I. Basak** : Member
Dean (Academic)
Department of Mechanical Engineering
NIT Durgapur
56. **Prof. B. Haldar** : Member
Dean (Student Welfare)
Department of Mechanical Engineering
NIT Durgapur
57. **Prof. N. Banerjee** : Member
Dean (AAO)
Department of Mechanical Engineering
NIT Durgapur
58. **Prof. A.N. Mullick** : Member
Department of Mechanical Engineering
NIT Durgapur
59. **Prof. N.B. Hui** : Member
Department of Mechanical Engineering
NIT Durgapur

Soumyashankar

60. **Prof. S.S. Roy** : Member
Department of Mechanical Engineering
NIT Durgpur
61. **Prof. A.B. Puri** : Member
Department of Mechanical Engineering
NIT Durgpur
62. **Prof. K.S. Ghosh** : Member
Department of Metallurgical & Materials Engineering
NIT Durgpur
63. **Prof. M.M. Ghosh** : Member
Department of Metallurgical & Materials Engineering
NIT Durgpur
64. **Prof. P. Kumbhakar** : Member
Department of Physics
NIT Durgpur
65. **Prof. Amit Kr. Chakraborty** : Member
Department of Physics
NIT Durgpur
66. **Mr. Soumya Sen Sharma** : Secretary
Registrar
NIT Durgapur

Prof. (Mrs.) S. Dasgupta, Sri S. Chatterjee, Mr. S. Bhowmik, Ms. B. Arshad, Prof. A. K. Sadhukhan, Prof. G. N. Halder, Prof. B. Maji, Prof. S. Ghosh, Prof. K. Adhikari, Dr. Samarjit Kar, Prof. A. Layek, Prof. J. Maity and Prof. A.K. Meikap could not attend the meeting and were granted leave of absence.

The Chairman welcomed the Senate members to the meeting and requested Secretary, Senate to present the agenda of the 53rd Senate meeting.

Item No. 53.1 Confirmation of the Minutes of the 52nd Senate Meeting

The minutes of the 52nd Senate meeting were confirmed by the Senate. A typo in the Agenda note was corrected from 20th December, 2019 to 20th December, 2018.

Item No. 53.2 Action Taken Report

The Senate of the Institute noted the Action Taken Report with the following addendum.

52.7: The feedback from only the students who attended at least 60% of the classes held shall be considered for computing the data of students' feedback.

Item No. 53.3 To consider issues related to the UG and PG studies

The Senate approved/ratified the resolutions of UGAC/PGAC meetings held on 21.12.2018, 15.01.2019, 14.02.2019, 28.03.2019 and 10.05.2019 with the following amendments.

15.01.2019: Item No. 3

Reimbursement of tuition fee for eligible SC/ST students: The Institute shall comply with the directives from the MHRD (vide letter dated 14.11.2018) on the matter and submit the required information to the Ministry of

Soumya Sen Sharma

Tribal Affairs (MOTA). Chairman, Senate was requested to take up in the NIT Council the issue of reimbursement of fee waiver extended by the Institute to other students.

14.02.2019: Item No. 7

Scholarship to the backlog M.Tech. students: Resolved that the scholarship will be withheld if a student has to appear for a supplementary examination, and the scholarship will be resumed with arrears on her/his successful passing of the supplementary examination. In case s/he is not able to clear the supplementary examination and gets a backlog, her/his scholarship will be terminated though s/he will continue her/his studentship without scholarship as per the norms of the PG regulation.

28.03.2019 Item No. 6

Seat Matrices for Central admissions 2019: The proposed Seat Matrix for Central admissions 2019 was ratified by the Senate.

Item No. 7

Award of degree to MSW students: The successful students shall be awarded the degree "MSW" without any mention of specialization.

10.05.2019 Item No. 2

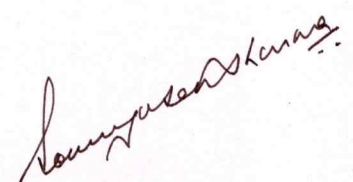
Academic Calendar 2019-2020: Odd Semester 2019-20 (Sl. No. 13) Semester Registration (online) September 04-16, 2019.

Item No. 3

Dual Degree M.Tech Curricula: The B.Tech., Dual-degree M.Tech. and Integrated M.Sc. curricula (2017 and 2018) including the elective baskets were approved by the Senate with revisions as suggested by the members. Further minor corrections may be incorporated by Dean (Academic) and Chairman, Senate was empowered to approve the same.

Item No. 6

Centres created under HEFA: The centres created under HEFA were



empowered by the Senate to offer Open Electives.

Item No. 53.4

To consider issues related to the PhD studies

The award of PhD degree to 35 candidates and the registration of 29 candidates for the PhD program were approved (Annexure I and II). The Senate approved/ratified the minutes of the RAC meeting held on 19.12.2018, 19.02.2019, 28.03.2019, 16.04.2019 and 10.05.2019, and the recommendations of the meeting of the HoDs held on 16.01.2019 with the following amendments:

28.03.2019 Item No. 12 Seat matrix for PhD admission 2019: It was ratified by the Senate.

16.04.2019 Item No. 11 Modification of eligibility criterion for admission to PhD program (Full Time): The eligibility criteria specified in F. No. 12-2/2019-U1 dated Jan 31, 2019 as adopted in the 52nd BoG meeting shall be followed. The selection process through admission test and viva-voce conducted by NIT Durgapur shall be considered as one under Clause I(b)

10.05.2019 Item No. 7 To consider the seat matrix for admission for PhD programme 2019: The matrix was approved by the Senate. It was also resolved that the departments may submit a panel in addition to the selection list during the admission of category A PhD students in the even semester. In case of vacancies in any department, selection shall be made from the panel submitted by other departments.

Item No. 8 It was resolved that "English for Technical Writing" shall be omitted from the mandatory coursework requirement for the PhD students and will be included as an important component in the course "Research Methodology" (3-0-2; 4 credits). IELTS/TOEFL shall be used as guidelines. Research Methodology shall also include statistical analysis, design of experiments and ethics other



than a component from the concerned department/ research area. Prof. P. Pal (Chemical Engineering) will provide inputs on plagiarism and Prof. A. B. Puri will furnish inputs to the committee to finalize the syllabus of Research Methodology. Chairman, Senate was empowered by the Senate to approve the syllabus.

Item No. 53.5

To decide the date of 15th Convocation

The date of the 15th Convocation was decided as September 07, 2019.

Item No. 53.7

To consider the reforms in the academic and examination system

The Senate approved the recommendations of the Committee with the following amendments:

- UG clause 2.10: If a student fails to join the Institute and attend classes within 15 days from the start of classes without any valid reason and intimation, s/he will be deemed to have left the programme. No refund of fees shall be admissible to him/her.
- UG clause 7.1 and PG clause 6.1: The word “undergraduate” shall be deleted.
- Fine for late submission of fees: A suitable revision shall be suggested by the committee constituted for the purpose and Chairman, Senate was empowered by the Senate to approve the same.
- UG clause 11.7: Based on the CGPA, a student shall be awarded First class Distinction, if the CGPA is 8.00 and above, subject to clearing all courses in regular examinations without disciplinary conviction. However, if a student misses the end-semester examination due to a compelling reason like serious illness of self or a calamity in the family, and has her/his absence condoned by a duly constituted committee as specified in Clause 12.3(c), s/he will be considered for First Class Distinction, in case other conditions have been fulfilled. S/he may also be considered for the award of Gold medal subject to the fulfilment of other conditions.
- UG Regulations Appendix III.1.5 and PG Regulations Appendix II.1.5: P grade shall be awarded for marks obtained in the range 35-49 and F grade will be awarded for marks <35. Other grades shall remain unaltered.

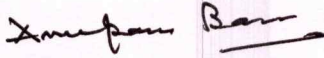
Sanjay Kumar Kanungo

Item No. 53.13 To consider revision in the constitution of the Students' Gymkhana

The Senate empowered Chairman, Senate to approve the revised constitution of the Students' Gymkhana.

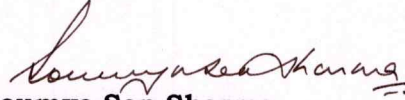
For want of time the Agenda Items 53.6, 53.8, 53.9, 53.10, 53.11, and 53.12 were kept in abeyance till the next meeting.

The meeting ended with a vote of thanks to the chair.



**Anupam Basu
Director & Chairman, Senate
NIT Durgapur**

Place: NIT Durgapur
Date: 23/05/2019



**Soumya Sen Sharma
Registrar & Secretary, Senate
NIT, Durgapur**

Annexure I

NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

LIST OF PHD AWARDEE (SENATE MEETING DATED ON 13.05.2019)

DATED: 13.05.2019

SL.NO.	REGN. NO	DEPT.	NAME OF THE SCHOLAR	NAME OF THE SUPERVISOR	DATE OF AWARD
1	NITD/PhD/CH/2015/00676	CH	SHRABONI MUKHERJEE	1) DR. G.N. HALDER	27.11.2018
2	NITD/PhD/CY/2016/00730	CY	ABHRANIL DE	1) DR. M. MAJI 2) DR. B. BISWAS, NBU, WB	03.12.2018
3	NITD/PhD/EE/2015/00598	EE	DIPAK KUMAR MISHRA	1) PROF. C. KOLEY 2) PROF. N. K. ROY	12.12.2018
4	NITD/PhD/CHE/2015/00586	CH	SOUMYA BANERJEE	1) DR. G. HALDER 2) PROF. T. MANDAL	17.12.2018
5	NITD/PhD/ME/2015/00673	ME	MANOJ KUNDU	1) PROF. M. C. MAJUMDER	18.12.2018
6	NITD/PhD/MS/2014/00495	MS	MANVENDRA PRATAP SINGH	1) PROF. M. ROY	19.12.2018
7	NITD/PhD/EC/2016/00699	EC	PRASIT KUMAR BANDYOPADHYAY	1) DR. A. K. BHATTACHARJEE 2) DR. A. ACHARYYA, C.B.G.E. COLLEGE, WB 3) DR. A. BISWAS, K.N.U, ASANSOL	21.12.2018
8	NITD/PhD/CY/2016/00701	CY	INDRANI THAKUR (MUKHERJEE)	1) DR. R. N. SAHA 2) DR. S. CHATTERJEE BHUBANESWAR	11.01.2019
9	NITD/PhD/ECE/2014/00473	EC	DEBASIS MANDAL	1) DR. A. K. BHATTACHARJEE	11.01.2019
10	NITD/PhD/ME/2015/00639	ME	PARIMAL SHARAD BHAMBARE	1) PROF. M. C. MAJUMDER	11.01.2019
11	NITD/PhD/CSE/2016/00723	CS	ADITI KHANRA	1) DR. T. PAL,	11.01.2019

				2) DR. M. K. MAITY, M. R. COLLEGE, MAHISHADAL, MIDNAPORE, 3) DR. M. MAITI VIDYASAGAR UNIVERSITY	
12	NITD/PhD/MME/2012/00347	MM	NIVEDITA DUTTA (CHOWDHURY)	1) PROF. K. S. GHOSH	22.01.2019
13	NITD/PhD/ECE/2013/00441	EC	RAJESH BERA	1) DR. D. MANDAL 2) DR. R. KAR 3) PROF. S. P. GHOSHAL	05.02.2019
14	NITD/PhD/ECE/2015/00615	EC	BIJOY KUMAR MANDAL	1) DR. A. K. BHATTACHARJEE 2) DR. A. BISWAS K. N. UNIVERSITY, ASANSOL	15.02.2019
15	NITD/PhD/HSS/2012/00369	HS	ALOKE KAHALI	1) PROF. P. P. SENGUPTA	25.02.2019
16	NITD/PhD/EES/2014/00494	ES	SUDIPTO BANERJEE	1)DR. K. ADHIKARI, 2) DR. S. BANDYOPADHYAY HOOGHLY MOHSIN COLLEGE HOOGHLY	27.02.2019
17	NITD/PhD/PH/2014/00533	PH	SUBRATA BISWAS	1) PROF. P. KUMBHAKAR	06.03.2019
18	NITD/PhD/BT/2012/00366	BT	AJOY ROY	1) DR. K. S. KHANNAM	8.03.2019
19	NITD/PhD/BT/2016/00763	BT	SAGARIKA DEEPHTY T	1) DR. M. GHOSH	12.03.2019
20	NITD/PhD/ME/2015/00638	ME	PRADEEP KUMAR KRISHNAN	1) PROF. M. C. MAJUMDER	15.03.2019
21	NITD/PhD/MA/2016/00764	MA	SK. ARIF AHMED	1) DR. S. KAR, 2) DR. D. P. DOGRA, IIT BHUBANESEAR	16.03.2019
22	NITD/PhD/M/2013/00452	MA	JOTINDRA NATH ROUL	1) PROF. S. KAR, 2) DR. K. MAITY, M. G. MAHAVIDYALAYA, 3) PROF. M. MAITI, VIDYASAGAR UNIVERSITY	18.03.2019
23	NITD/PHD/CS/2016/00742	CS	SAIBAL MAJUMDER	1) PROF. T. PAL 2) DR. S. KAR	25.03.2019

24	NITD/PhD/CE/2014/00504	CE	B. NEETHU	1) DR. D. DAS	27.03.2019
25	NITD/PhD/BT/2013/00435	BT	SIDDHARTHA PAL	1) DR. K. S. KHANNAM	01.04.2019
26	NITD/PhD/CS/2015/00660	CS	MOUMITA PRADHAN	1) PROF. T. PAL 2) PROF. P. ROY, KALYANI GOVT. ENGG.COLLEGE	04.04.2019
27	NITD/PhD/CHE/2015/00643	CH	SUMIT HANSAPAL DHAWANE	1) DR. G. HALDER 2) PROF. T. KUMAR	08.04.2019
28	NITD/PhD/ME/2016/00835	ME	DEEKSHA PORWAL	1) DR. K. KHAN, 2) DR. A. DEY, ISRO, BANGALORE	13.04.2019
29	NITD/PhD/ECE/2015/00644	EC	APARNA KUNDU	1) DR. A. K. BHATTACHARJEE	15.04.2019
30	NITD/PhD/IT/2015/00588	CS	BIKASH CHOUDHURY	1) PROF. S. CHOUDHURY 2) DR. A. DUTTA	19.04.2019
31	NITD/PhD/CA/2014/00486	CS	PRASENJIT BANERJEE	1) DR. A. SARKAR	19.04.2019
32	NITD/PhD/CA/2014/00546	CS	SHREYA BANERJEE	1) DR. A. SARKAR	24.04.2019
33	NITD/PhD/ME/2016/00824	ME	GOUTAM KHANKARI	1) DR. S. KARMAKAR	26.04.2019
34	NITD/PhD/CE/2014/00578	CE	SURAJIT GHOSH	1) DR. S. BHATTACHARYYA 2) DR. (MS.) R. SHARMA, SAC, AHMEDABAD 3) DR. P. K. THAKUR, IIRS, DEHRADUN	06.05.2019
35	NITD/PhD/PH/2016/00738	PH	AMIT KUMAR DAS	1) PROF. A. K. MEIKAP	07.05.2019

Annexure II**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR**
LIST OF PHD REGISTRATION (SENATE MEETING DATED ON 13.05.2019)**DATED: 13.05.2019**

SL.NO	NAME	DEPTT.	SUPERVISOR	DATE OF REGISTRATION
1	SWAGATA BISWAS	PH	DR. S. SAHOO	26.11.2018
2	SAROJ KHUTIA	PH	DR. H. CHAUDHURI	27.11.2018
3	BISWAJIT SARKAR	CH	PROF. S. SEN	29.11.2018
4	SANNISTHA BANERJEE	EE	DR. P. S. BHOWMIK	30.11.2018
5	WASI UR RAHMAN	CH	DR. G. HALDER	03.01.2019
6	PRIYANKA CHAKRABORTY	CS	DR. A. SARKAR	04.01.2019
7	PRASANTA KUMAR PARIDA	PH	DR. S. SAHOO	04.01.2019
8	PIYALI CHATTERJEE	PH	DR. A. K. CHAKRABORTY	04.01.2019
9	SHIBENDU MAHATA	EC	DR. R. KAR	10.01.2019
10	AVISHEK CHAKRABORTY	EC	DR. D. MANDAL	10.01.2019
11	TITHLI SADHU	CY	1) DR. J. CHAKRABORTY 2) DR. A. BHATTACHARJEE	21.01.2019
12	INDRANI BANERJEE	CY	1) DR. J. CHAKRABORTY 2) DR. A. BHATTACHARJEE	21.01.2019
13	ANIL KUMAR MISHRA	CE	1) PROF. V. K. DWIVEDI	24.01.2019
14	SANJIB SAHA	CS	DR. D. NANDI	25.01.2019
15	BISHESWAR KARMAKAR	CH	DR. G. HALDER	30.01.2019
16	SAYAN GUPTA	MS	DR. G. BANDYOPADHYAY	01.02.2019
17	ABHILASHA RAI	CH	1) DR. S. DUTTA 2) DR. J. CHAKRABARTY	08.02.2019
18	ASHOK BABU CHATLA	EC	1) DR. B. MAJI, 2) DR. H. KHAN, 3) DR. B.T.P. MADHAV	18.02.2019
19	AMIT PAUL	CS	DR. A. DUTTA	19.02.2019
20	TAPASHREE MONDAL	CY	DR. S. S. PANJA	26.02.2019

21	SUDEEP PAUL	MM	1) DR. S. BERA, 2)DR. D. MANDAL, 3) DR. M. DAS	19.03.2019
22	ANUP DATTA	ME	DR. N. B. HUI	02.04.2019
23	SNEHA KHATOR	BT	DR. S. S. MUKHOPADHYAY	10.04.2019
24	GOUTAM SARKAR	CE	DR. P. ROY	11.04.2019
25	SARMISTHA BHAUMIK	HS	1) PROF. P. P. SENGUPTA, 2) PROF. P. GHOSH, VU, SANTINIKETAN	18.04.2019
26	SHABORI MUKHERJEE	HS	PROF. P. P. SENGUPTA	22.04.2019
27	SANTANU DEY	PH	DR. S. BASU	22.04.2019
28	DEBAPRIYA DEY SARKAR	MA	DR. K. BASU	06.05.2019
29	AMIT KUMAR BHORE	CS	DR. A. SHARMA	07.05.2019

**CURRICULUM
OF
2017 UNDERGRADUATE ADMISSION BATCH**

1. 1st YEAR (COMMON)
2. BIOTECHNOLOGY- B. TECH.
3. CIVIL ENGINEERING- B. TECH.
4. CHEMICAL ENGINEERING- B. TECH.
5. COMPUTER SCIENCE AND ENGINEERING- B. TECH.
6. ELECTRICAL ENGINEERING- B. TECH.
7. ELECTRONICS AND COMMUNICATION ENGINEERING- B. TECH.
8. INFORMATION TECHNOLOGY- B. TECH.
9. MECHANICAL ENGINEERING- B. TECH.
10. METALLURGICAL AND MATERIALS ENGINEERING- B. TECH.
11. BIOTECHNOLOGY- DUAL DEGREE B. TECH.- M. TECH.
12. CHEMICAL ENGINEERING- DUAL DEGREE B. TECH.- M. TECH.
13. OPEN ELECTIVE SUBJECT BASKETS
(THE STUDENT CAN OPT ANY OPEN ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER, EXCEPT THE SUBJECT(S) WITH HIS/ HER OWN DEPARTMENT CODE)
14. DEPTH ELECTIVE SUBJECT BASKETS
(THE STUDENTS PRIMARILY WILL OPT FROM THE DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER BY HIS/ HER OWN DEPARTMENT. HOWEVER, A STUDENT CAN OPT FOR DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED BY OTHER DEPARTMENT IN A PARTICULAR SEMESTER, WITH THE PERMISSION/ CONSENT FROM HIS/ HER HEAD OF THE DEPARTMENT AND THE CONCERNED TEACHER OF THAT SUBJECT)
15. CHEMISTRY- 5 YEAR INTEGRATED M. SC.

PLACED FOR COMPREHENSIVE APPROVAL IN THE UGAC MEETING DATED ____ 10/05/2019 ____

APPROVED IN THE SENATE MEETING DATED _____ 13/05/2019 _____

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

First semester and second semester are common to all branches of Engineering and 5-year Integrated Chemistry programme. Some of the subjects are grouped for interchange between first and second semester for half of the students totalling credit unit 38 in first year (1st and 2nd semester combined).

L= Lecture hour/ week; T= Tutorial hour/ week; S= Sessional/ practical hour/ week

C= Subject credit point; H= Subject contact hour/ week.

Semester - I							
Sl.	Code	Subject	L	T	S	C	H
1	MAC01	Mathematics - I	2	1	0	3.0	3
2	PHC01	Physics	2	1	0	3.0	3
3	CYC01	Chemistry	2	1	0	3.0	3
4	XEC01	Engineering Mechanics	2	1	0	3.0	3
5	ESC01	Environmental Science	2	0	0	2.0	2
6	BTC01	Life Science	2	0	0	2.0	2
7	PHS01	Physics Laboratory	0	0	2	1.0	2
8	CYS01	Chemistry Laboratory	0	0	2	1.0	2
9	WSS01	Workshop Practice	0	0	2	1.0	2
10	XES01	Co-curricular Activities - I	0	0	2	0.0	2
11	HSC01	Values and Ethics	0	0	0	0.0	0
		TOTAL	12	4	8	19.0	24
Semester - II							
Sl.	Code	Subject	L	T	S	C	H
1	MAC02	Mathematics - II	2	1	0	3.0	3
2	CSC01	Introduction to Computing	2	1	0	3.0	3
3	ECC01	Basic Electronics	2	1	0	3.0	3
4	EEC01	Electrical Technology	2	1	0	3.0	3
5	MES01	Engineering Graphics	1	0	2	2.0	3
6	CSS01	Computing Laboratory	0	0	2	1.0	2
7	ECS01	Basic Electronics Laboratory	0	0	2	1.0	2
8	EES01	Electrical Technology Laboratory	0	0	2	1.0	2
9	HSS01	Professional Communication	1	0	2	2.0	3
10	XES02	Co-curricular Activities - II	0	0	2	0.0	2
		TOTAL	10	4	12	19.0	26

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

BIOTECHNOLOGY- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC331	Process Calculation and Thermodynamics	3	1	0	4.0	4
3	BTC301	Cell biology and Genetics	3	1	0	4.0	4
4	BTC302	Microbiology and Bioprocess Technology	3	1	0	4.0	4
5	BTC303	Biochemistry and Enzyme Technology	3	0	0	3.0	3
6	BTS352	Biochemistry Laboratory	0	0	3	1.5	3
7	BTS 351	Microbiology Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	BTC401	Molecular Biology and Recombinant DNA Technology	3	1	0	4.0	4
2	CHC431	Unit Operation of Chemical Engineering- I	3	1	0	4.0	4
3	BTC402	Immunology	3	1	0	4.0	4
4	CSC431	Programming and Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - 1	3	0	0	3.0	3
6	BTS451	Cell Biology and Genetics Laboratory	0	0	3	1.5	3
7	CHS481	Unit Operations of Chemical Engineering-I Laboratory	0	0	3	1.5	3
8	CSS481	Programming and Data Structure Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	BTC501	Biochemical Reaction Engineering and Bioreactor Design	3	1	0	4.0	4
2	BTC502	Cell and Tissue Culture	3	1	0	4.0	4
3	BTC503	Bioseparation and Biochemical Analysis	3	1	0	4.0	4
4	CHC531	Unit Operations of Chemical Engineering-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	BTS551	Immunology Laboratory	0	0	3	1.5	3
7	BTS552	Bioprocess Technology Laboratory	0	0	3	1.5	3
8	CHS581	Unit Operations of Chemical Engineering Laboratory- II	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	BTC601	Bioinformatics	2	1	0	3.0	3
3	CSC631	Database Management System	2	1	0	3.0	3
4	CHC631	Process Control and Instrumentation	2	1	0	3.0	3
5	BTE610 --	Depth Elective - 1	3	0	0	3.0	3
6	BTE610 --	Depth Elective - 2	3	0	0	3.0	3
7	BTS651	Molecular Biology and rDNA Technology Laboratory	0	0	3	1.5	3
8	BTS652	Bioinformatics Laboratory	0	0	3	1.5	3
9	CSS681	Database Management System Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - VII							
Sl. No	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	BTE710 --	Depth Elective - 3	3	0	0	3.0	3
3	BTE710 --	Depth Elective - 4	3	0	0	3.0	3
4	BTE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	BTS751	Bioseparation and Biochemical Analysis Laboratory	0	0	3	1.5	3
7	BTS752	Cell and Tissue Culture Laboratory	0	0	3	1.5	3
8	BTS753	Biochemical Reaction Engineering Laboratory	0	0	3	1.5	3
9	BTS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	BTS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl. No	Code	Subject	L	T	S	C	H
1	BTE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	BTS851	Project - II	0	0	15	5.0	15
5	BTS852	Project Seminar	0	0	0	1.0	0
6	BTS853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	22.5	21.5	16.0	166.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

CIVIL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CEC301	Solid Mechanics	3	1	0	4.0	4
3	CEC302	Fluid Mechanics	3	0	0	3.0	3
4	CEC303	Building Construction and Concrete Technology	3	1	0	4.0	4
5	ESC331	Geology for Civil Engineering	3	0	0	3.0	3
6	ESS381	Geology Laboratory for Civil Engineering	0	0	3	1.5	3
7	CES351	Fluid Mechanics and Strength of Material Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	3	6	21.0	24
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CEC401	Structural Analysis-I	3	1	0	4.0	4
2	CEC402	Design of Concrete Structures	3	1	0	4.0	4
3	CEC403	Surveying	3	0	0	3.0	3
4	CSC432	Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CES451	Structural Analysis Sessional-I	0	0	3	1.5	3
7	CES452	Design of Concrete Structures Sessional	0	0	3	1.5	3
8	CSS482	Data Structure Sessional	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CEC501	Structural Analysis-II	3	1	0	4.0	4
2	CEC502	Design of Steel Structures	3	1	0	4.0	4
3	CEC503	Soil Mechanics	3	0	0	3.0	3
4	CEC504	Transportation Engineering	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CES551	Structural Analysis Sessional-II	0	0	3	1.5	3
7	CES552	Design of Steel Structures Sessional	0	0	3	1.5	3
8	CES553	Transportation Engineering and Soil Mechanics Laboratory	0	0	3	1.5	3
9	CES554	Surveying Laboratory and Estimation Sessional	1	0	3	2.5	4
10	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	16	3	12	25.0	31

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CEC601	Water Resource Engineering	3	1	0	4.0	4
3	CEC602	Foundation Engineering	3	0	0	3.0	3
4	CEC603	Environmental Engineering	3	1	0	4.0	4
5	CEE610 --	Depth Elective - 1	3	0	0	3.0	3
6	CEE610 --	Depth Elective - 2	3	0	0	3.0	3
7	CES651	Environmental Engineering Laboratory and Computational Laboratory- I	0	0	3	1.5	3
8	CES653	Concrete Technology Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	18	2	6	23.0	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	CEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	CEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CES751	Project - I	0	0	4	2.0	4
7	CES752	Structural Engineering Laboratory and Computational Laboratory -II	0	0	3	1.5	3
8	CES754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
		TOTAL	15	0	9	19.5	24
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CES851	Project - II	0	0	15	5.0	15
5	CES852	Project Seminar	0	0	0	1.0	0
6	CES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	21.0	21.5	25.0	23.0	19.5	16.0	164.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

CHEMICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC301	Process Calculations	3	1	0	4.0	4
3	CHC302	Chemical Engineering Thermodynamics	3	1	0	4.0	4
4	CHC303	Fluid Mechanics	3	1	0	4.0	4
5	CYC331	Chemistry - II	3	0	0	3.0	3
6	CYS381	Chemistry Laboratory- II	0	0	3	1.5	3
7	CHS351	Chemical Engineering Computing Laboratory- I	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CHC401	Heat Transfer	3	1	0	4.0	4
2	CHC402	Mechanical Operation	3	1	0	4.0	4
3	CHC403	Mass Transfer- I	3	1	0	4.0	4
4	MEC432	Mechanical Design of Equipment and Components	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CHS451	Fluid Mechanics Laboratory	0	0	3	1.5	3
7	CHS452	Process Equipment Design- I Sessional	0	0	3	1.5	3
8	WSS481	Workshop Practice- II	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CHC501	Chemical Reaction Engineering	3	1	0	4.0	4
2	CHC502	Mass Transfer- II	3	1	0	4.0	4
3	CHC503	Chemical Process Technology	3	1	0	4.0	4
4	CHC504	Process Control and Instrumentation	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CHS551	Heat Transfer Laboratory	0	0	3	1.5	3
7	CHS552	Mechanical Operations Laboratory	0	0	3	1.5	3
8	CHS553	Process Equipment Design- II Sessional	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CHC601	Transport Phenomena	3	1	0	4.0	4
3	CHC602	Petroleum Refining and Petrochemicals	3	1	0	4.0	4
4	CHC603	Process Modelling and Simulation	3	0	0	3.0	3
5	CHE610 --	Depth Elective - 1	3	0	0	3.0	3
6	CHS651	Fuel Laboratory	0	0	3	1.5	3
7	CHS652	Reaction Engineering Laboratory	0	0	3	1.5	3
8	CHS653	Mass Transfer Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CHE710 --	Depth Elective - 2	3	0	0	3.0	3
3	CHE710 --	Depth Elective - 3	3	0	0	3.0	3
4	CHE710 --	Depth Elective - 4	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CHS751	Process Control and Instrumentation Laboratory	0	0	3	1.5	3
7	CHS752	Chemical Engineering Computing Laboratory- II	0	0	3	1.5	3
8	CHS753	Computer Aided Process Equipment Design Laboratory	0	0	3	1.5	3
9	CHS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	CHS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CHE810 --	Depth Elective - 5	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CHS851	Project - II	0	0	15	5.0	15
5	CHS852	Project Seminar	0	0	0	1.0	0
6	CHS853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	21.5	21.5	16.0	165.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

COMPUTER SCIENCE AND ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CSC301	Discrete Mathematics	3	0	0	3.0	3
3	CSC302	Digital Logic Design	3	0	0	3.0	3
4	CSC303	Data Structures and Algorithms	3	1	0	4.0	4
5	PHC331	Physics of Semiconductor Devices	3	0	0	3.0	3
6	PHS381	Semiconductor Devices Laboratory	0	0	3	1.5	3
7	CSS351	Digital Logic Design Laboratory	0	0	3	1.5	3
8	CSS352	Data Structures and Algorithms Laboratory	0	0	4	2.0	4
9	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	2	10	22.0	27
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CSC401	Computer Organization and Architecture	3	1	0	4.0	4
2	CSC402	Theory of Computation	3	0	0	3.0	3
3	CSC403	Design and Analysis of Algorithms	3	1	0	4.0	4
4	CSC404	Object Oriented Programming	2	0	0	2.0	2
5	CSC405	Signals and Systems	3	0	0	3.0	3
6	YYO44*	Open Elective - I	3	0	0	3.0	3
7	CSS451	Computer Organization Laboratory	0	0	3	1.5	3
8	CSS452	Object Oriented Programming Laboratory	0	0	3	1.5	3
9	CSS453	Signal Processing Laboratory	0	0	3	1.5	3
10	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	17	2	9	23.5	28
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CSC501	Operating Systems	3	0	0	3.0	3
2	CSC502	Database Management System	3	1	0	4.0	4
3	CSC503	Compiler Design	3	0	0	3.0	3
4	CSC504	Microcontroller based Systems	3	0	0	3.0	3
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CSS551	Design and Analysis of Algorithms Laboratory	0	0	3	1.5	3
7	CSS552	Microcontroller based System Laboratory	0	0	3	1.5	3
8	CSS553	Operating Systems Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	1	9	20.5	25

Semester - VI								
Sl.	Code	Subject	L	T	S	C	H	
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3	
2	CSC601	Software Engineering	3	0	0	3.0	3	
3	CSC602	Data Communication and Computer Networks	3	1	0	4.0	4	
4	CSE610 --	Depth Elective - 1	3	0	0	3.0	3	
5	CSE610 --	Depth Elective - 2	3	0	0	3.0	3	
6	CSS651	Compiler Laboratory	0	0	3	1.5	3	
7	CSS652	Data Communication and Computer Networks Laboratory	0	0	3	1.5	3	
8	CSS653	Database Management System Laboratory	0	0	3	1.5	3	
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0	
		TOTAL	15	1	9	20.5	25	
Semester - VII								
Sl.	Code	Subject	L	T	S	C	H	
1	MSC731	Principles of Management	3	0	0	3.0	3	
2	CSE710 --	Depth Elective – 3	3	0	0	3.0	3	
3	CSE710 --	Depth Elective - 4	3	0	0	3.0	3	
4	CSE710 --	Depth Elective - 5	3	0	0	3.0	3	
5	YYO74*	Open Elective - 3	3	0	0	3.0	3	
6	CSS751	Software Engineering Laboratory	0	0	3	1.5	3	
7	CSS752	Modelling and Simulation Laboratory	0	1	3	2.5	4	
8	CSS753	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2	
9	CSS754	Project - I	0	0	3	1.0	3	
		TOTAL	15	1	11	21.0	27	
Semester - VIII								
Sl.	Code	Subject	L	T	S	C	H	
1	CSE810 --	Depth Elective - 6	3	0	0	3.0	3	
2	YYO84*	Open Elective - 4	3	0	0	3.0	3	
3	YYO85*	Open Elective - 5	3	0	0	3.0	3	
4	CSS851	Project - II	0	0	15	5.0	15	
5	CSS852	Project Seminar	0	0	0	1.5	0	
6	CSS853	Viva Voce	0	0	0	1.0	0	
		TOTAL	9	0	15	16.5	24	

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	23.5	20.5	20.5	21.0	16.5	162.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

ELECTRICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	EEC301	Network Analysis and Synthesis	3	1	0	4.0	4
3	EEC302	Electrical and Electronics Measurements	3	1	0	4.0	4
4	ECC331	Analog Electronics	3	1	0	4.0	4
5	PHC332	Electromagnetic Field Theory	3	0	0	3.0	3
6	PHS382	Physics Laboratory	0	0	3	1.5	3
7	EES351	Electrical and Electronics Measurements Lab	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	EEC401	Power Systems - I	3	1	0	4.0	4
2	EEC402	Electrical Machines - I	3	1	0	4.0	4
3	EEC403	Digital Electronics	3	1	0	4.0	4
4	MEC431	Fluid and Thermal Engineering	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	EES451	Network Analysis and Synthesis Laboratory	0	0	3	1.5	3
7	ECS452	Analog Electronics Laboratory	0	0	3	1.5	3
8	MES481	Fluid and Thermal Engineering Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	EEC501	Electrical Machines - II	3	1	0	4.0	4
2	EEC502	Control Systems	3	1	0	4.0	4
3	EEC503	Power Systems - II	3	1	0	4.0	4
4	EEC504	Power Electronics	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	ECS551	Digital Electronics Laboratory	0	0	3	1.5	3
7	EES552	Control Systems Laboratory	0	0	3	1.5	3
8	EES553	Electrical Machines Laboratory - I	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	EEC601	Advanced Power Systems	3	1	0	4.0	4
3	EEC602	Microprocessor and Microcontroller	3	1	0	4.0	4
4	EEE610 --	Depth Elective - 1	3	0	0	3.0	3
5	EEE610 --	Depth Elective - 2	3	0	0	3.0	3
6	EES651	Electrical Machines - II Laboratory	0	0	3	1.5	3
7	EES652	Power Electronics Laboratory	0	0	3	1.5	3
8	EES653	Power System Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	EEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	EEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	EEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	EES751	Microprocessor and Microcontroller Laboratory	0	0	3	1.5	3
7	EES752	Advanced Power System Laboratory	0	0	3	1.5	3
8	EES753	Electrical machine Design Laboratory	0	0	3	1.5	3
9	EES754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	EES755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	EEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	EES851	Project - II	0	0	15	5.0	15
5	EES852	Project Seminar	0	0	0	1.0	0
6	EES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	21.5	21.5	16.0	165.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

ELECTRONICS AND COMMUNICATION ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	ECC301	Networks and Transmission Lines	3	1	0	4.0	4
3	ECC302	Electronic Devices and Circuits- I	3	1	0	4.0	4
4	ECC303	Signals and Systems	3	1	0	4.0	4
5	PHC331	Physics of Semiconductor Devices	3	0	0	3.0	3
6	PHS381	Semiconductor Devices Laboratory	0	0	3	1.5	3
7	ECS351	Electronic Devices and Circuits Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	ECC401	Analog Communication	3	1	0	4.0	4
2	ECC402	Digital Electronics	3	1	0	4.0	4
3	ECC403	Electromagnetic Engineering	2	1	0	3.0	3
4	EEC431	Control Systems	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	ECS451	Analog Communication Laboratory	0	0	3	1.5	3
7	ECS452	Digital Electronics Laboratory	0	0	3	1.5	3
8	EES481	Control Systems Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	21.5	26
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	ECC501	Digital Communication	3	1	0	4.0	4
2	ECC502	Microwave Engineering	2	1	0	3.0	3
3	ECC503	Microprocessors and Microcontrollers	3	1	0	4.0	4
4	ECC504	Electronic Devices and Circuits-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	ECS551	Digital Communication Laboratory	0	0	3	1.5	3
7	ECS552	Microwave Engineering Laboratory	0	0	3	1.5	3
8	ECS553	Microprocessors and Microcontrollers Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	22.5	27

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	ECC601	Antenna and Wave Propagation	3	1	0	4.0	4
3	ECC602	VLSI Design	3	0	0	3.0	3
4	ECC603	Digital Signal Processing	2	1	0	3.0	4
5	ECE611 --	Depth Elective - 1	3	0	0	3.0	3
6	ECE611 --	Depth Elective - 2	3	0	0	3.0	3
7	ECS651	Antenna and Wave Propagation Laboratory	0	0	3	1.5	3
8	ECS652	VLSI Design Laboratory	0	0	3	1.5	3
9	ECS653	Digital Signal Processing Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	17	2	9	23.5	29
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	ECE711 --	Depth Elective - 3	3	0	0	3.0	3
3	ECE711 --	Depth Elective - 4	3	0	0	3.0	3
4	ECE711 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	ECS751	Computer Aided Design Laboratory	0	0	3	1.5	3
7	ECS752	Hardware Design Laboratory	0	0	3	1.5	3
8	ECS753	Advanced Communication Laboratory	0	0	3	1.5	3
9	ECS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	ECS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	ECE811 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	ECS851	Project - II	0	0	15	5.0	15
5	ECS852	Project Seminar	0	0	0	1.0	0
6	ECS853	Comprehensive Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	21.5	22.5	23.5	21.5	16.0	165.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

INFORMATION TECHNOLOGY- B. TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	ITC301	Discrete Mathematics	3	0	0	3.0	3
3	ITC302	Digital Electronics	3	0	0	3.0	3
4	ITC303	Data Structures and Algorithms	3	1	0	4.0	4
5	PHC331	Physics of Semiconductor Devices	3	0	0	3.0	3
6	PHS381	Semiconductor Devices Laboratory	0	0	3	1.5	3
7	ITS351	Digital Electronics Laboratory	0	0	3	1.5	3
8	ITS352	Data Structures and Algorithms Laboratory	0	0	4	2.0	4
9	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	2	10	22.0	27
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	ITC401	Computer Organization and Architecture	3	1	0	4.0	4
2	ITC402	Theory of Computation	3	0	0	3.0	3
3	ITC403	Algorithm Design & Analysis	3	1	0	4.0	4
4	ITC404	Object Oriented Technology	2	0	0	2.0	2
5	CSC405	Signals and Systems	3	0	0	3.0	3
6	YYO44*	Open Elective - I	3	0	0	3.0	3
7	ITS451	Computer Organization Laboratory	0	0	3	1.5	3
8	ITS452	Object Oriented Programming Laboratory	0	0	3	1.5	3
9	CSS453	Signal Processing Laboratory	0	0	3	1.5	3
10	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	17	2	9	23.5	28
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	ITC501	Operating Systems	3	0	0	3.0	3
2	ITC502	Database Management System	3	1	0	4.0	4
3	ITC503	Principles of Language Translation	3	0	0	3.0	3
4	ITC504	Microcontroller based Systems	3	0	0	3.0	3
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CSS551	Algorithm Design Laboratory	0	0	3	1.5	3
7	CSS552	Microcontroller based System Laboratory	0	0	3	1.5	3
8	CSS553	Operating Systems Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	1	9	20.5	25

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	ITC601	Software Engineering	3	0	0	3.0	3
3	ITC602	Computer Networks	3	1	0	4.0	4
4	ITE610 --	Depth Elective - 1	3	0	0	3.0	3
5	ITE610 --	Depth Elective - 2	3	0	0	3.0	3
6	ITS651	Compiler Laboratory	0	0	3	1.5	3
7	ITS652	Computer Networks Laboratory	0	0	3	1.5	3
8	ITS653	Database Management System Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	1	9	20.5	25
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	ITE710 --	Depth Elective – 3	3	0	0	3.0	3
3	ITE710 --	Depth Elective - 4	3	0	0	3.0	3
4	ITE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	ITS751	Software Engineering Laboratory	0	0	3	1.5	3
7	ITS752	Modelling and Simulation Laboratory	0	1	3	2.5	4
8	ITS753	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
9	ITS754	Project - I	0	0	3	1.0	3
		TOTAL	15	1	11	21.0	27
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	ITE810 --	Departmental Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	ITS851	Project - II	0	0	15	5.0	15
5	ITS852	Project Seminar	0	0	0	1.5	0
6	ITS853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.5	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	23.5	20.5	20.5	21.0	16.5	162.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

MECHANICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	MEC301	Solid Mechanics	3	1	0	4.0	4
3	MEC302	Theory of Machines and Mechanisms	3	1	0	4.0	4
4	MEC303	Fluid Mechanics	3	1	0	4.0	4
5	MEC304	Engineering Thermodynamics	3	0	0	3.0	3
6	PHC333	Physics of Engineering Materials	3	0	0	3.0	3
7	PHS383	Physics of Engineering Materials Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	18	4	3	23.5	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	MEC401	Design of Machine Element	3	1	0	4.0	4
2	MEC402	Casting, Forming and Welding	3	1	0	4.0	4
3	MEC403	Heat and Mass Transfer	3	0	0	3.0	3
4	EEC432	Electrical Machines	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	MES451	Solid Mechanics Laboratory	0	0	3	1.5	3
7	MES452	Fluid Mechanics Laboratory	0	0	3	1.5	3
8	MES453	Mechanism Laboratory	0	0	3	1.5	3
9	EES482	Electrical Machines Laboratory	0	0	3	1.5	3
10	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	2	12	23.0	29
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	MEC501	Machining and Machine Tools	3	1	0	4.0	4
2	MEC502	IC Engine and Gas Turbines	3	0	0	3.0	3
3	MEC503	Machine Design	3	1	0	4.0	4
4	MEC504	Dynamics of Machines	2	1	0	3.0	3
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	MES551	Design and Dynamics Laboratory	0	0	3	1.5	3
7	MES552	Heat Transfer Laboratory	0	0	3	1.5	3
8	MES553	CAD/CAM Laboratory	0	0	3	1.5	3
9	WSS581	Workshop Practice- II	0	0	3	1.5	3
10	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	14	3	12	23.0	29

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	MEC601	Power Plant Engineering	2	1	0	3.0	3
3	MEC602	Industrial Engineering and Measurement	3	0	0	3.0	3
4	MEE610 --	Depth Elective - 1	3	0	0	3.0	3
5	MEE610 --	Depth Elective - 2	3	0	0	3.0	3
6	MES651	Engineering Measurement Laboratory	0	0	3	1.5	3
7	MES652	Power Generation Laboratory	0	0	3	1.5	3
8	MES653	Machine Design Sessional - I	0	0	3	1.5	3
9	MES654	Manufacturing Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	14	1	12	21.0	27
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	MEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	MEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	MEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	MES751	Hydraulic Machine Laboratory	0	0	3	1.5	3
7	MES752	Machine Design Sessional - II	0	0	3	1.5	3
8	MES753	Vocational Training / Summer Internship and Seminar	0	0	3	1.5	3
9	MES754	Project - I	0	0	3	1.0	4
		TOTAL	15	0	12	20.5	27
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	MEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	MES851	Project - II	0	0	15	5.0	15
5	MES852	Project Seminar	0	0	0	1.0	0
6	MES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	23.5	23.0	23.0	21.0	20.5	16.0	165.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

METALLURGICAL AND MATERIALS ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics- III	3	1	0	4.0	4
2	MMC301	Metallurgical Thermodynamics and Kinetics	3	1	0	4.0	4
3	MMC302	Introduction of Metallurgy and Materials	3	1	0	4.0	4
4	MMC303	Non - Ferrous Process Metallurgy	3	1	0	4.0	4
5	ESC332	Economic Geology	3	0	0	3.0	3
6	ESS382	Economic Geology Laboratory	0	0	3	1.5	3
7	MMS351	Metallurgical Thermodynamics and Kinetics Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	MMC401	Transport Phenomena in Metallurgical Processes	3	1	0	4.0	4
2	MMC402	Phase Transformation and Phase Equilibria	3	1	0	4.0	4
3	MMC403	Materials Characterization	3	1	0	4.0	4
4	YYO44*	Open Elective - I	3	0	0	3.0	3
5	CSC433	Data Structures	3	0	0	3.0	3
6	CSC483	Data Structures Laboratory	0	0	3	1.5	3
7	MMS451	Transport Phenomena Laboratory	0	0	3	1.5	3
8	MMS452	Phase Transformation and Phase Equilibria Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	MMC501	Manufacturing Processes	3	1	0	4.0	4
2	MMC502	Heat Treatment of Materials	3	1	0	4.0	4
3	MMC503	Fundamentals of Plastic Deformation and Strengthening of Materials	3	1	0	4.0	4
4	MMC504	Iron Making	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	MMS551	Manufacturing Processes Laboratory - I	0	0	3	1.5	3
7	MMS552	Heat Treatment of Materials Laboratory	0	0	3	1.5	3
8	MMS553	Plastic Deformation and Strengthening of Materials Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	MMC601	Steel Making	3	1	0	4.0	4
3	MMC602	Mechanical Working of Materials	3	0	0	3.0	3
4	MME610 --	Depth Elective - 1	3	0	0	3.0	3
5	MME610 --	Depth Elective - 2	3	0	0	3.0	3
6	MMS651	Mineral Beneficiation Laboratory	0	0	3	1.5	3
7	MMS652	Mechanical Working of Materials Laboratory	0	0	3	1.5	3
8	MMS653	Material Characterization Laboratory -I	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
TOTAL			15	1	9	20.5	25
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	MME710 --	Depth Elective - 3	3	0	0	3.0	3
3	MME710 --	Depth Elective - 4	3	0	0	3.0	3
4	MME710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	MMS751	Manufacturing Processes Laboratory - II	0	0	3	1.5	3
7	MMS752	Material Characterization Laboratory -II	0	0	3	1.5	3
8	MMS753	Ferrous Process Metallurgy Laboratory	0	0	3	1.5	3
9	MMS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	MMS755	Project - I	0	0	3	1.0	3
TOTAL			15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	MME810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	MMS851	Project - II	0	0	15	5.0	15
5	MMS852	Project Seminar	0	0	0	1.0	0
6	MMS853	Viva Voce	0	0	0	1.0	0
TOTAL			9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	20.5	21.5	16.0	164.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

BIOTECHNOLOGY- DUAL DEGREE (B.TECH.-M.TECH.)

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC331	Process Calculation and Thermodynamics	3	1	0	4.0	4
3	BTC301	Cell biology and Genetics	3	1	0	4.0	4
4	BTC302	Microbiology and Bioprocess Technology	3	1	0	4.0	4
5	BTC303	Biochemistry and Enzyme Technology	3	0	0	3.0	3
6	BTS352	Biochemistry Laboratory	0	0	3	1.5	3
7	BTS 351	Microbiology Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	BTC401	Molecular Biology and Recombinant DNA Technology	3	1	0	4.0	4
2	CHC431	Unit Operation of Chemical Engineering- I	3	1	0	4.0	4
3	BTC402	Immunology	3	1	0	4.0	4
4	CSC431	Programming and Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - 1	3	0	0	3.0	3
6	BTS451	Cell Biology and Genetics Laboratory	0	0	3	1.5	3
7	CHS481	Unit Operations of Chemical Engineering-I Laboratory	0	0	3	1.5	3
8	CSS481	Programming and Data Structure Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	BTC501	Biochemical Reaction Engineering and Bioreactor Design	3	1	0	4.0	4
2	BTC502	Cell and Tissue Culture	3	1	0	4.0	4
3	BTC503	Bioseparation and Biochemical Analysis	3	1	0	4.0	4
4	CHC531	Unit Operations of Chemical Engineering-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	BTS551	Immunology Laboratory	0	0	3	1.5	3
7	BTS552	Bioprocess Technology Laboratory	0	0	3	1.5	3
8	CHS581	Unit Operations of Chemical Engineering Laboratory- II	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	BTC601	Bioinformatics	2	1	0	3.0	3
3	CSC631	Database Management System	2	1	0	3.0	3
4	CHC631	Process Control and Instrumentation	2	1	0	3.0	3
5	BTE610 --	Depth Elective - 1	3	0	0	3.0	3
6	BTE610 --	Depth Elective - 2	3	0	0	3.0	3
7	BTS651	Molecular Biology and rDNA Technology Laboratory	0	0	3	1.5	3
8	BTS652	Bioinformatics Laboratory	0	0	3	1.5	3
9	CSS681	Database Management System Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	BTE710 --	Depth Elective - 3	3	0	0	3.0	3
3	BTE710 --	Depth Elective - 4	3	0	0	3.0	3
4	BTE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 4	3	0	0	3.0	3
6	BT1001	Advanced Bioprocess Engineering	3	1	0	4.0	4
7	BTS751	Bioseparation and Biochemical Analysis Laboratory	0	0	3	1.5	3
8	BTS752	Cell and Tissue Culture Laboratory	0	0	3	1.5	3
9	BTS753	Biochemical Reaction Engineering Laboratory	0	0	3	1.5	3
10	BTS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
11	BTS755	Project – I	0	0	3	1.0	3
		TOTAL	18	1	14	25.5	33
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	BTE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	BT2002	Genomics , Proteomics and Bioinformatics	3	1	0	4.0	4
5	BT2003	Industrial Production of Biopharmaceutical Product	3	1	0	4.0	4
6	BT2053	Structural Bioinformatics Laboratory	0	0	3	2.0	3
7	BTS855	Project – II	0	0	6	2.0	6
		TOTAL	15	2	9	21.0	31

Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	BT9027	Advanced rDNA Technology & Cellular Biotechnology	3	1	0	4.0	4
2	BT1051	Advanced Bioprocess Engineering Laboratory	0	0	3	2.0	3
3	BT3055	Major Project-I	0	0	22	11.0	22
4	BT3056	Major Project Seminar-I	0	0	0	2.0	0
		TOTAL	8	0	22	19.0	29
Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	BT4055	Major Project-II	0	0	22	11.0	22
2	BT4056	Major Project Seminar-II and Viva Voce	0	0	0	3.0	0
3	BT4057	Comprehensive Viva Voce	0	0	0	1.0	0
		TOTAL	4	0	22	15.0	22

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	22.5	25.5	21.0	19.0	15.0	209.0

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

CHEMICAL ENGINEERING- DUAL DEGREE (B.TECH.-M.TECH.)

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC301	Process Calculations	3	1	0	4.0	4
3	CHC302	Chemical Engineering Thermodynamics	3	1	0	4.0	4
4	CHC303	Fluid Mechanics	3	1	0	4.0	4
5	CYC331	Chemistry - II	3	0	0	3.0	3
6	CYS381	Chemistry Laboratory- II	0	0	3	1.5	3
7	CHS351	Chemical Engineering Computing Laboratory- I	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CHC401	Heat Transfer	3	1	0	4.0	4
2	CHC402	Mechanical Operation	3	1	0	4.0	4
3	CHC403	Mass Transfer- I	3	1	0	4.0	4
4	MEC432	Mechanical Design of Equipment and Components	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CHS451	Fluid Mechanics Laboratory	0	0	3	1.5	3
7	CHS452	Process Equipment Design- I Sessional	0	0	3	1.5	3
8	WSS481	Workshop Practice- II	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CHC501	Chemical Reaction Engineering	3	1	0	4.0	4
2	CHC502	Mass Transfer- II	3	1	0	4.0	4
3	CHC503	Chemical Process Technology	3	1	0	4.0	4
4	CHC504	Process Control and Instrumentation	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CHS551	Heat Transfer Laboratory	0	0	3	1.5	3
7	CHS552	Mechanical Operations Laboratory	0	0	3	1.5	3
8	CHS553	Process Equipment Design- II Sessional	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CHC601	Transport Phenomena	3	1	0	4.0	4
3	CHC602	Petroleum Refining and Petrochemicals	3	1	0	4.0	4
4	CHC603	Process Modelling and Simulation	3	0	0	3.0	3
5	CH610--	Depth Elective - 1	3	0	0	3.0	3
6	CHS651	Fuel Laboratory	0	0	3	1.5	3
7	CHS652	Reaction Engineering Laboratory	0	0	3	1.5	3
8	CHS653	Mass Transfer Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CHE710 --	Depth Elective - 2	3	0	0	3.0	3
3	CHE710 --	Depth Elective - 3	3	0	0	3.0	3
4	CHE710 --	Depth Elective - 4	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CH1001	Advanced Fluid Dynamics	3	1	0	4.0	4
7	CHS751	Process Control and Instrumentation Laboratory	0	0	3	1.5	3
8	CHS752	Chemical Engineering Computing Laboratory- II	0	0	3	1.5	3
9	CHS753	Computer Aided Process Equipment Design Laboratory	0	0	3	1.5	3
10	CHS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
11	CHS755	Project - I	0	0	3	1.0	3
		TOTAL	18	1	14	25.5	33
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CHE810 --	Depth Elective - 5	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CH2001	Advanced Process Dynamics and Control	3	1	0	4.0	4
5	CH2002	Advanced Mass Transfer	3	1	0	4.0	4
6	CH2003	Advanced Heat Transfer	3	1	0	4.0	4
7	CHS855	Project – II	0	0	6	2.0	6
		TOTAL	18	3	6	23.0	27
Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	CH1002	Environmental Engineering	3	1	0	4.0	4
2	CH1003	Advanced Process Modelling and Simulation	3	1	0	4.0	4
3	CH3055	Major Project-I	0	0	22	11.0	22
4	CH3056	Major Project Seminar-I	0	0	0	2.0	0
		TOTAL	6	2	22	21.0	30
Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	CH4055	Major Project-II	0	0	22	11.0	22
2	CH4056	Major Project Seminar-II and Viva Voce	0	0	0	3.0	0
3	CH4057	Grand Viva Voce	0	0	0	1.0	0
		TOTAL	4	0	22	15.0	22

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	21.5	25.5	23.0	21.0	15.0	212.0

2017 UNDERGRADUATE ADMISSION BATCH

OPEN ELECTIVE SUBJECT BASKETS

THE STUDENT CAN OPT ANY OPEN ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER, EXCEPT THE SUBJECT(S) WITH HIS/ HER OWN DEPARTMENT CODE.

Basket– 1 (4th Semester)

MAO441	Discrete Mathematics
MAO442	Probability and Stochastic Processes
PHO441	Quantitative Biology
BTO441	Food Biotechnology
CEO440	Introduction to Earthquake Engineering
CEO441	Elementary Civil Engineering
CEO442	Experimental Methods & Analysis
CHO441	Process Heat Transfer
CSO441	Data Structures and Algorithms
CSO442	Object Oriented Technology
ECO440	Digital Systems
ECO441	Communication Engineering
EEO440	Fundamentals of Power Systems
EEO441	Concept of Industrial Electronics
EEO442	Energy Conservation, Audit and ICT & IOT Application For Monitoring
EEO443	Network Theory
XEO441	Brain to Mind Creation

Basket– 2 (5th Semester)

HSO540	Entrepreneurship Development: Theory and Practice
HSO541	Statistical Techniques for Economics
HSO542	Culture and Communication
HSO543	Personality Development
HSO544	Soft Skills
MAO541	Mathematical Methods for Engineers
MAO542	Linear Algebra
MAO543	Modern Algebra
PHO541	Thin Film Technology
BTO540	Mineral Biotechnology
CEO540	Numerical Methods in Engineering
CEO541	Engineering Computing and Simulation with Scilab
CEO542	Introduction to Random Vibrations
CHO542	Fuels & Combustion
CHO543	Industrial Water Treatment
CSO541	Fundamentals of Algorithms
CSO542	Database Management System
CSO543	Computer Organization
CSO544	Operating Systems
ECO540	Mechatronics
ECO541	Probability Theory for Engineering Application
ECO542	Artificial Intelligence and Soft Computing
EEO540	Measurement and Instrumentation
EEO541	Fundamentals of Control Systems
EEO542	Power System Analysis and Design
MEO541	Experimental methods in Engineering
MMO541	Basic Manufacturing Process

Basket– 3 (7th Semester)

HSO740	Indian Writings in English
HSO741	Development Economics and Sustainable Development
CYO741	Analytical and environmental chemistry
PHO741	Nuclear Reactor Technology
BTO740	Genetic Engineering
CEO740	Mechanics of Composite
CEO741	Optimization in Engineering Design
CEO742	Theory of Elasticity and Plasticity
CHO741	Non-linear Dynamics
CSO741	Software Engineering
CSO742	Multimedia Technologies
CSO743	Computer Networks
ECO740	Biomedical Instrumentation
ECO741	Embedded Systems
EEO740	Concept of Electrical Machines & Drives
EEO741	Biomedical Instrumentation
EEO742	Renewable Energy
MEO741	Nonconventional Energy Systems
MEO742	Robotics
XEO741	Human Resource Management
XEO742	Medical Instrumentation and Assistive Technology

Basket– 4 (8th Semester)

MSO841	Marketing Research and Analytics
PHO841	Quantum Physics
BTO840	Industrial Biotechnology
CEO840	Finite Element Analysis and Applications
CEO841	Disaster Management and Mitigation
CEO842	Experimental Methods in Engineering
CHO841	Bioengineering & Industrial applications
CSO841	CAD for VLSI
CSO842	Internet and Web Technologies
CSO843	Soft Computing Techniques
CSO844	Compiler Design
ECO840	Structronics
ECO841	Signal Processing
ECO842	Introduction to VLSI
EEO840	Concept of Electrical Machines and Drives
EEO841	Biomedical Instrumentation
EEO842	Renewable Energy
EEO843	Digital Image Processing
MEO841	Nonlinear Dynamical Systems
MMO841	Material Science

Basket– 5 (8th Semester)

HSO850	International Economics and Globalization
HSO851	Literature and Cinema
HSO852	Classics of Literature
MSO851	Investment Management and Stock Market
CYO851	Spectroscopic methods of chemical analysis
PHO851	Fiber-Optics Communication
PHO852	Optical Instrumentation
MAO851	Operations Research
MAO852	Advanced Numerical Analysis
MAO853	Optimization Techniques
BTO850	Medical Biotechnology
CEO850	Watershed Planning and Management
CEO851	Elementary Structural Design
CEO852	Reliability Engineering
CHO851	Energy, Environment & Sustainability
CSO851	Machine Learning
CSO852	Data Analytics
CSO853	Distributed Computing
CSO854	Game Theory and its Applications
CSO855	Information Security
CSO856	Optical Network
ECO850	Communication Network
ECO851	Mobile Computing
ECO852	MEMS Technology
EEO850	Soft Computing Techniques
EEO851	Embedded Systems and Applications
EEO852	Micro-Electro-Mechanical Systems
MEO851	Tribology
XEO851	Leadership and Corporate Strategy

2017 UNDERGRADUATE ADMISSION BATCH

DEPTH ELECTIVE SUBJECT BASKETS

THE STUDENTS PRIMARILY WILL OPT FROM THE DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER BY HIS/ HER OWN DEPARTMENT. HOWEVER, A STUDENT CAN OPT FOR DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED BY OTHER DEPARTMENT IN A PARTICULAR SEMESTER, WITH THE PERMISSION/ CONSENT FROM HIS/ HER HEAD OF THE DEPARTMENT AND THE CONCERNED TEACHER OF THAT SUBJECT.

SIXTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE610	Animal Biotechnology
BTE611	Industrial Microbiology
BTE612	Nutraceutical and Nutrigenomics
BTE613	Human Genomics
BTE614	Molecular Virology
BTE615	Biometallurgy
BTE616	Nanobiotechnology
BTE617	Marine Biotechnology
BTE619	Folding, Misfolding and Diseases
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE610	Chemical Reactor Analysis
CHE611	Industrial Pollution Control and Treatment
CHE612	Non-conventional Energy Engineering
CHE613	Combustion Engineering
CHE614	Artificial Intelligence in Chemical Industries
	DEPARTMENT OF CIVIL ENGINEERING
CEE610	Advanced Design of Concrete Structures
CEE611	Advanced Structural Analysis
CEE612	Mechanics of Composite Structures
CEE613	Material Technology
CEE614	Applied Numerical Methods
CEE615	Bridge Engineering
CEE620	Analysis and Design of Pavement
CEE621	Finite Element Method
CEE622	Ground Improvement
CEE623	Remote sensing and GIS
CEE624	Traffic Engineering and Management
CEE625	System Approach to Civil Engineering

	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE611	Embedded System Design
CSE612	System Software
CSE613	Internet and Web Technologies
CSE614	Advanced Computer Architecture
CSE615	Optimization Techniques
CSE616	Artificial Intelligence
CSE617	Advanced Algorithms
CSE618	Information Coding Theory
CSE619	Computer Graphics
CSE620	Game Theory and its Applications
CSE621	Digital Systems Testing
CSE622	Soft Computing
CSE623	Advanced Database Systems
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE610	Artificial Intelligence & Soft Computing
ECE611	Computer Organization and Architecture
ECE612	Advanced Digital Communication
ECE613	Object Oriented Programming
ECE614	CAD for VLSI
ECE615	Active Filter Design
ECE616	VLSI Technology
ECE617	Probability and Random Signal Theory
ECE618	Data Comm. & Computer Networks
ECE619	Mobile Computing
ECE620	Nano Electronics
ECE621	Measurement & Instrumentation
ECE622	Digital IC Design
ECE623	Mechatronics Systems
ECE624	Power Electronics
ECE625	Optical Communication
	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE610	Numerical Analysis
EEE611	Instrumentation
EEE612	Modern Control Systems
EEE613	Special Electrical Machines
EEE614	Signals and Systems
EEE615	Advanced Power Electronics
EEE616	Soft Computing Theory and Applications
	DEPARTMENT OF INFORMATION TECHNOLOGY
ITE611	Embedded System Design
ITE612	Internet and Web Technologies
ITE613	Optimization Techniques
ITE614	E-Commerce
ITE615	Artificial Intelligence
ITE616	Information Coding Theory
ITE617	Computer Graphics
ITE618	Game Theory and its Applications
ITE619	VLSI Testing and Verification
ITE620	Soft Computing
ITE621	Advanced Database Systems

	DEPARTMENT OF MECHANICAL ENGINEERING
MEE 610	Automobile Engineering
MEE 611	Gas Dynamics and Propulsion
MEE 612	Mechanics of Forming and Press Working
MEE 613	Advanced Solid Mechanics
MEE 614	Advanced Machining and CNC Machine Tools
MEE 615	Operation Research
MEE 616	Mechanical Equipment Design
MEE 620	Advanced Foundry Engineering
MEE 621	Mechanics of Composite and Functionally Graded Materials
MEE 622	Engineering Optimization
MEE 623	Multi-Phase Flow and Heat Transfer
MEE 624	Tribology
MEE 625	Computer Aided Design and Manufacturing
	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME610	Engineering Materials
MME611	Electronic and Thermal Properties of Materials
MME612	Alternative Routes of Iron Making
MME613	Production of Ferroalloys
MME614	Nano Science and Technology
MME615	Ceramic Technology
MME616	Solidification Phenomena
MME617	Metal Joining Processes

SEVENTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE710	Molecular Plant Pathology
BTE711	Cancer Biology & Cell Signaling
BTE712	Food Biotechnology
BTE713	Biopharmaceutical Process Design
BTE714	Bioenergy
BTE715	Project Engineering for Biotechnology
BTE716	Structural Biology
BTE717	Environmental Biotechnology
BTE718	Proteomics and Protein Engineering
BTE719	Molecular Modelling & Drug Design
BTE720	Nanotherapeutics
BTE721	Biomaterials
BTE722	Vaccine Technology
BTE723	Stem Cell Biology
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE710	Energy Sources & Utilization
CHE711	Bioprocess and Bioreactor Engineering
CHE712	Process Engineering
CHE713	Chemical Plant Design and Economics
CHE714	Process Safety in Chemical Industries
CHE715	Membrane Separation Processes
CHE716	Process Intensification
CHE717	Colloids and Interface Engineering
CHE718	Pinch Technology
CHE719	Energy Management and Process Optimization in Chemical Industry

	DEPARTMENT OF CIVIL ENGINEERING
CEE710	Structural Dynamics
CEE711	Advanced Design of Steel Structures
CEE712	Theory of Plates and Shells
CEE713	Theory of Elasticity and Plasticity
CEE714	Structural Health Monitoring
CEE720	Soil Dynamics
CEE721	Environmental Pollution and Control
CEE722	Construction Planning and Management
CEE723	Open Channel Hydraulics
CEE724	Ground Water
CEE725	Hydrology & Irrigation Engineering
CEE730	Principles of Reliability
CEE731	Offshore Structural Dynamics
CEE732	Pre-stressed Concrete
CEE733	Advanced Concrete Technology
CEE734	Advanced Structural Mechanics
	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE710	Machine Learning
CSE711	Graph Theory
CSE712	Electronic Design Automation
CSE713	Natural Language Processing
CSE714	Data Warehousing and Data Mining
CSE715	Digital Image Processing
CSE716	Data Analytics
CSE717	Biometrics
CSE718	Cryptography and Network Security
CSE719	Multimedia Information Systems
CSE720	Cellular Automata and its Application
CSE721	Computational Geometry
CSE722	Complex Network Theory
CSE723	Pattern Recognition
CSE724	Semantic Web Technology
CSE725	Human Computer Interaction
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE710	Detection and Estimation Theory
ECE711	Information Theory & Coding
ECE712	Analog IC Design
ECE713	FPGA Based Design
ECE714	MEMS and Microsystems Technology
ECE715	Machine Learning
ECE716	Millimetre Wave Technology
ECE717	RF ID Technology and Applications
ECE718	VLSI System Design
ECE719	Telecommunication Networks
ECE720	Advanced Semiconductor Devices
ECE721	Random Processes
ECE722	Microwave Circuits & Techniques
ECE723	Semiconductor Device Modelling
ECE724	Biomedical Instrumentation
ECE725	Adhoc and Sensor Networks

	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE710	Renewable Energy Systems
EEE711	Advanced Power Converters
EEE712	Generalized Theory of Electrical Machines
EEE713	Electrical Drives
EEE714	Power System Planning, Operation and Control
EEE715	Embedded Systems
EEE716	FACTS Device
EEE717	Generation & Utilization of Electrical Power
EEE718	Advanced Control Systems
EEE719	Microprocessor & Embedded Systems
EEE720	Digital Signal Processing
	DEPARTMENT OF INFORMATION TECHNOLOGY
ITE710	Machine Learning
ITE711	Graph Theory
ITE712	Advanced Algorithms
ITE713	Natural Language Processing
ITE714	Data Warehousing and Data Mining
ITE715	Digital Image Processing
ITE716	Data Analytics
ITE717	Cryptography and Network Security
ITE718	Multimedia Information Systems
ITE719	Pattern Recognition
ITE720	Semantic Web
	DEPARTMENT OF MECHANICAL ENGINEERING
MEE710	Finite Element Method
MEE711	Computational Fluid Dynamics and Heat Transfer
MEE712	Design and Optimisation of Thermal Systems
MEE713	Non-Conventional Machining
MEE714	Advanced Welding Technology
MEE715	Robotics
MEE716	Mechanical Equipment Design
MEE717	Control Systems
MEE718	Fundamentals of Combustion
MEE719	Modelling and Simulation of Dynamic Systems
MEE720	Non-Linear Vibration
MEE721	Convective Heat and Mass Transfer
MEE722	Additive Manufacturing
MEE723	Energy Conversion Systems
MEE724	Hydraulic Machines
	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME710	Functional Materials
MME711	Fatigue, Creep and Fracture
MME712	Computational Materials Engineering
MME713	Fuel, Furnace and Refractories
MME714	Powder Metallurgy
MME715	Secondary Steel Making
MME716	Composite Materials
MME717	Corrosion Engineering
MME718	Energy and Environment in Metallurgical Industries

EIGHTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE810	Plant Developmental Biology
BTE811	Bioprocess Plant & Equipment Design
BTE812	Medical & Pharmaceutical Biotechnology
BTE813	GM Crops
BTE814	Bioethics & IPR
BTE815	Environmental Microbiome
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE810	Multiphase Flow
CHE811	Process Analysis and Optimisation
CHE812	Boiling Heat Transfer
CHE813	CFD Applications in Chemical Engineering
CHE814	Nanotechnology
	DEPARTMENT OF CIVIL ENGINEERING
CEE810	Sediment transport
CEE811	Slope Stability and Reinforced Earth
CEE812	Soil Structure Interaction
CEE813	Industrial Waste
CEE814	Water Resources System Planning & Management
CEE815	Machine Foundation
	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE811	Distributed Systems
CSE812	Computer Vision
CSE813	Optical Networks
CSE814	Internet Of Things
CSE815	Cloud Computing
CSE816	Mobile Computing
CSE817	Expert Systems
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE810	Wireless Communication
ECE811	Mixed Signal IC Design
ECE812	Broadband Communication
ECE813	Digital Image Processing
ECE814	Error Control Coding
ECE815	Embedded System Design
ECE816	RF and MMIC
ECE817	Design with Op. Amps. & Analog Integrated Circuits
ECE818	Satellite Communication
ECE819	RF IC Design
ECE820	Low Power Circuits & Systems
ECE821	Advanced Antenna Synthesis
ECE822	DSP Architectures in VLSI
ECE823	Internet of Things (IoT) Technology
ECE824	VLSI Testing and Verification
ECE825	Statistical Signal Processing
	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE810	Power System Transients & Power Quality
EEE811	Smart Grid

	DEPARTMENT OF INFORMATION TECHNOLOGY
ITE811	Distributed Systems
ITE812	Optical Networks
ITE813	Internet Of Things
ITE814	Cloud Computing
ITE815	Mobile Computing
ITE816	Bioinformatics
ITE817	Reinforcement Learning
	DEPARTMENT OF MECHANICAL ENGINEERING
MEE 810	Solar Energy
MEE 811	Mechatronics
MEE 812	Micro and Nano Manufacturing
MEE 813	Microfluidics
MEE 814	Machine Tool Engineering and Automation
MEE 815	Theory of Plates
MEE 816	Advanced Mechanical Vibration
	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME810	Nano Science and Technology
MME811	FEM Modelling and Simulation for Materials Design
MME812	Mathematical Modelling and Simulation
MME813	Raw Materials Preparation for Iron and Steel Making

CURRICULUM OF 2017 UNDERGRADUATE ADMISSION BATCH

CHEMISTRY- 5 YEAR INTEGRATED MSC

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics – III	3	1	0	4.0	4
2	CYC301	State of Matter and Chemical Thermodynamics	3	1	0	4.0	4
3	CYC302	Atomic Structure and Chemical Bonding	3	1	0	4.0	4
4	CYC303	Stereochemistry and Basic Principle of Organic Chemistry	3	1	0	4.0	4
5	PHC334	Physics – II	3	0	0	3.0	3
6	PHS384	Physics- II Laboratory	0	0	3	1.5	3
7	CYS351	Qualitative Analysis of Organic Samples Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CYC401	Biochemistry: Structure and Function	3	0	0	3.0	3
2	CYC402	Phase-Equilibrium, Chemical Kinetics and Catalysis	3	1	0	4.0	4
3	CYC403	Chemistry of Elements and Radioactivity	3	1	0	4.0	4
4	CYC404	Organic Reaction Mechanism and Reactive Intermediates	3	1	0	4.0	4
5	YYE44*/ HSC431	Open Elective - 1/ Psychology	3	0	0	3.0	3
6	CYS451	Thermodynamic Properties of Solution and Mixture Laboratory	0	0	4	2.0	4
7	CYS452	Identification of Acidic and Basic Radicals Laboratory	0	0	4	2.0	4
8	CYS453	Biochemistry Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (optional)	0	0	0	0.0	0
		TOTAL	15	3	11	23.5	29
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CYC501	Fundamentals of Electrochemistry and Surface Chemistry	3	1	0	4.0	4
2	CYC502	Chemistry in Solution and Solid State Chemistry	3	1	0	4.0	4
3	CYC503	Chemistry of Heterocyclic Compounds and Natural Products	3	1	0	4.0	4
4	CYC504	Industrial Chemistry	3	0	0	3.0	3
5	YYE54*	Open Elective – 2	3	0	0	3.0	3
6	CYS551	Chemical Kinetics, Surface Chemistry and Conductometry Laboratory	0	0	3	1.5	3
7	CYS552	Quantitative estimation of metal ions in mixture	0	0	4	2.0	4
8	CYS553	Quantitative Analysis of Organic Samples	0	0	3	1.5	3
9	XXS581	Co-curricular Activities- V (optional)	0	0	0	0.0	0
		TOTAL	15	3	10	23.0	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	CYC601	Basics of Photochemistry, Spectroscopy, Group Theory and Data Analysis	3	1	0	4.0	4
2	CYC602	Coordination Chemistry	3	1	0	4.0	4
3	CYC603	Reagents in Organic Synthesis	3	1	0	4.0	4
4	CYE610 --	Departmental Elective-1	3	0	0	3.0	3
5	XEC631	Economics and Management Accountancy	3	0	0	3.0	3
6	CYS651	Potentiometric and Colorimetric Analysis	0	0	3	1.5	3
7	CYS652	Analysis of Ores and Alloys	0	0	4	2.0	4
8	CYS653	Single Step Synthesis of Organic Compounds	0	0	4	2.0	4
9	CYS654	Comprehensive Viva Voce – I	0	0	0	1.0	0
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	10	24.5	28
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CYC701	Quantum Chemistry and Spectroscopy	3	1	0	4.0	4
3	CYC702	Inorganic Reaction Mechanisms and Magnetochemistry	3	1	0	4.0	4
4	CYC703	Concept of Organic Synthesis and Asymmetric Synthesis	3	1	0	4.0	4
6	CYC704	Mathematical and Computational Chemistry	3	0	0	3.0	3
7	CYS751	Spectrophotometric Analysis	0	0	3	1.5	3
8	CYS752	Spectrophotometric Estimation of Cations and Anions	0	0	3	1.5	3
9	CYS753	Separation and Identification of Organic Compounds from Binary Mixture	0	0	4	2.0	4
		TOTAL	15	3	10	23.0	28
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CYC801	Chemical, Statistical Thermodynamics and Electrochemistry	3	1	0	4.0	4
2	CYC802	Organometallic Compounds and Bioinorganic Chemistry	3	1	0	4.0	4
3	CYC803	Pericyclic Reactions and Organic Photochemistry	3	1	0	4.0	4
4	CYE810 --	Departmental Elective- 2	3	0	0	3.0	3
5	CYS851	Advanced Physical Chemistry Practical	0	0	4	2.0	4
6	CYS852	Synthesis and Characterisation of Complex Compounds	0	0	3	1.5	3
7	CYS853	Chromatographic Separation of Organic Compounds	0	0	3	1.5	3
		TOTAL	12	3	10	20.0	25
Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	CYE9 --	Special subject -1	3	1	0	4.0	4
2	CYE9 --	Special subject -2	3	1	0	4.0	4
3	CYE9 --	Special subject -3	3	1	0	4.0	4
4	CYE9 --	Special subject -4	3	1	0	4.0	4
5	CYS9 --	Special subject Practical	0	0	3	1.5	3
6	CYS951	Project- I	0	0	3	1.0	4
7	CYS952	Vocational training/ Summer internship/ Term Paper	0	0	0	1.0	0
8	CYS953	Comprehensive Viva Voce – II	0	0	0	1.5	0
		TOTAL	12	4	7	21.0	23

Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	CYS051	Project – II/ Internship	0	0	30	10.0	30
2	CYS052	Seminar & Viva voce	0	0	0	2.0	0
		TOTAL	0	0	30	12.0	30

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	38.0	22.0	23.5	23.0	24.5	23.0	20.0	21.0	12.0	207.0

Baskets of Departmental Electives:

	Elective-1
CYE611	Analytical and Environmental Chemistry
CYE612	Chromatographic Separation and Instrumental Methods of Analysis
	Elective-2
CYE811	Advanced Natural Products and Medicinal Chemistry
CYE812	Spectroscopic Methods of Chemical Analysis

Special subjects:

	Physical Chemistry specialisation:
CYE911	Advanced Quantum Chemistry and Application of Group Theory
CYE912	Non-Equilibrium Thermodynamics and Biophysical Chemistry
CYE913	Material Chemistry and Advanced Spectroscopy
CYE914	Electrode Kinetics and Corrosion Science
CYS961	Advanced Physical Chemistry-II Laboratory
	Inorganic Chemistry specialisation:
CYE921	Advanced Green Chemistry and Analytical Chemistry
CYE922	Synthetic Methodology for Metal Complexes and Coordination Aggregates
CYE923	Small Molecule Activation and Nuclear Chemistry
CYE924	Group theory, Applied Electrochemistry and X-ray Structure Analysis
CYS971	Environmental Sample Analysis
	Organic Chemistry specialisation:
CYE931	Application of some Important Reactions in Synthetic Organic Chemistry
CYE932	Natural Products and Drug Design
CYE933	Bioorganic Chemistry
CYE934	Advanced Stereochemistry and Structure-reactivity Correlation
CYS981	Multi Step Synthesis and Characterization of Organic Compounds

**CURRICULUM
OF
2018 UNDERGRADUATE ADMISSION BATCH**

1. 1st YEAR (COMMON)
2. BIOTECHNOLOGY- B. TECH.
3. CIVIL ENGINEERING- B. TECH.
4. CHEMICAL ENGINEERING- B. TECH.
5. COMPUTER SCIENCE AND ENGINEERING- B. TECH.
6. ELECTRICAL ENGINEERING- B. TECH.
7. ELECTRONICS AND COMMUNICATION ENGINEERING- B. TECH.
8. MECHANICAL ENGINEERING- B. TECH.
9. METALLURGICAL AND MATERIALS ENGINEERING- B. TECH.
10. BIOTECHNOLOGY- DUAL DEGREE B. TECH.- M. TECH.
11. CHEMICAL ENGINEERING- DUAL DEGREE B. TECH.- M. TECH.
12. OPEN ELECTIVE SUBJECT BASKETS
(THE STUDENT CAN OPT ANY OPEN ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER, EXCEPT THE SUBJECT(S) WITH HIS/ HER OWN DEPARTMENT CODE)
13. DEPTH ELECTIVE SUBJECT BASKETS
(THE STUDENTS PRIMARILY WILL OPT FROM THE DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER BY HIS/ HER OWN DEPARTMENT. HOWEVER, A STUDENT CAN OPT FOR DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED BY OTHER DEPARTMENT IN A PARTICULAR SEMESTER, WITH THE PERMISSION/ CONSENT FROM HIS/ HER HEAD OF THE DEPARTMENT AND THE CONCERNED TEACHER OF THAT SUBJECT)
14. CHEMISTRY- 5 YEAR INTEGRATED M. SC.

PLACED FOR COMPREHENSIVE APPROVAL IN THE UGAC MEETING DATED ____ 10/05/2019 ____

APPROVED IN THE SENATE MEETING DATED _____ 13/05/2019 _____

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

First semester and second semester are common to all branches of Engineering and 5-year Integrated Chemistry programme. Some of the subjects are grouped for interchange between first and second semester for half of the students totalling credit unit 44 in first year (1st and 2nd semester combined).

L= Lecture hour/ week; T= Tutorial hour/ week; S= Sessional/ practical hour/ week

C= Subject credit point; H= Subject contact hour/ week.

Semester - I							
Sl. No	Code	Subject	L	T	S	C	H
1	MAC01	Mathematics - I	3	1	0	4.0	4
2	PHC01	Engineering Physics	2	1	0	3.0	3
3	CYC01	Engineering Chemistry	2	1	0	3.0	3
4	XEC01	Engineering Mechanics	2	1	0	3.0	3
5	ESC01	Environmental Science	2	0	0	2.0	2
6	XES51	Engineering Graphics	1	0	3	2.5	4
7	HSS51	Professional Communication Laboratory	1	0	2	2.0	3
8	PHS51	Physics Laboratory	0	0	2	1.0	2
9	CYS51	Chemistry Laboratory	0	0	2	1.0	2
10	WSS51	Workshop Practice	0	0	3	1.5	3
11	XXS51	Co-curricular Activities - I	0	0	2	1.0	2
		TOTAL	13	4	14	24.0	31
Semester - II							
Sl. No	Code	Subject	L	T	S	C	H
1	MAC02	Mathematics - II	3	1	0	4.0	4
2	CSC01	Introduction to Computing	2	1	0	3.0	3
3	ECC01	Basic Electronics	2	1	0	3.0	3
4	EEC01	Electrical Technology	2	1	0	3.0	3
5	BTC01	Life Science	2	0	0	2.0	2
6	XES52	Graphical Analysis using CAD	0	0	2	1.0	2
7	CSS51	Computing Laboratory	0	0	2	1.0	2
8	ECS51	Basic Electronics Laboratory	0	0	2	1.0	2
9	EES51	Electrical Technology Laboratory	0	0	2	1.0	2
10	XXS52	Co-curricular Activities - II	0	0	2	1.0	2
		TOTAL	11	4	10	20.0	25

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

BIOTECHNOLOGY- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC331	Process Calculation and Thermodynamics	3	1	0	4.0	4
3	BTC301	Cell biology and Genetics	3	1	0	4.0	4
4	BTC302	Microbiology and Bioprocess Technology	3	1	0	4.0	4
5	BTC303	Biochemistry and Enzyme Technology	3	0	0	3.0	3
6	BTS352	Biochemistry Laboratory	0	0	3	1.5	3
7	BTS 351	Microbiology Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	BTC401	Molecular Biology and Recombinant DNA Technology	3	1	0	4.0	4
2	CHC431	Unit Operation of Chemical Engineering- I	3	1	0	4.0	4
3	BTC402	Immunology	3	1	0	4.0	4
4	CSC431	Programming and Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - 1	3	0	0	3.0	3
6	BTS451	Cell Biology and Genetics Laboratory	0	0	3	1.5	3
7	CHS481	Unit Operations of Chemical Engineering-I Laboratory	0	0	3	1.5	3
8	CSS481	Programming and Data Structure Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	BTC501	Biochemical Reaction Engineering and Bioreactor Design	3	1	0	4.0	4
2	BTC502	Cell and Tissue Culture	3	1	0	4.0	4
3	BTC503	Bioseparation and Biochemical Analysis	3	1	0	4.0	4
4	CHC531	Unit Operations of Chemical Engineering-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	BTS551	Immunology Laboratory	0	0	3	1.5	3
7	BTS552	Bioprocess Technology Laboratory	0	0	3	1.5	3
8	CHS581	Unit Operations of Chemical Engineering Laboratory- II	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	BTC601	Bioinformatics	2	1	0	3.0	3
3	CSC631	Database Management System	2	1	0	3.0	3
4	CHC631	Process Control and Instrumentation	2	1	0	3.0	3
5	BTE610 --	Depth Elective - 1	3	0	0	3.0	3
6	BTE610 --	Depth Elective - 2	3	0	0	3.0	3
7	BTS651	Molecular Biology and rDNA Technology Laboratory	0	0	3	1.5	3
8	BTS652	Bioinformatics Laboratory	0	0	3	1.5	3
9	CSS681	Database Management System Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - VII							
Sl. No	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	BTE710 --	Depth Elective - 3	3	0	0	3.0	3
3	BTE710 --	Depth Elective - 4	3	0	0	3.0	3
4	BTE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	BTS751	Bioseparation and Biochemical Analysis Laboratory	0	0	3	1.5	3
7	BTS752	Cell and Tissue Culture Laboratory	0	0	3	1.5	3
8	BTS753	Biochemical Reaction Engineering Laboratory	0	0	3	1.5	3
9	BTS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	BTS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl. No	Code	Subject	L	T	S	C	H
1	BTE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	BTS851	Project - II	0	0	15	5.0	15
5	BTS852	Project Seminar	0	0	0	1.0	0
6	BTS853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.0	22.5	23.5	22.5	21.5	16.0	172.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

CIVIL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CEC301	Solid Mechanics	3	1	0	4.0	4
3	CEC302	Fluid Mechanics	3	0	0	3.0	3
4	CEC303	Building Construction and Concrete Technology	3	1	0	4.0	4
5	ESC331	Geology for Civil Engineering	3	0	0	3.0	3
6	ESS381	Geology Laboratory for Civil Engineering	0	0	3	1.5	3
7	CES351	Fluid Mechanics and Strength of Material Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	3	6	21.0	24
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CEC401	Structural Analysis-I	3	1	0	4.0	4
2	CEC402	Design of Concrete Structures	3	1	0	4.0	4
3	CEC403	Surveying	3	0	0	3.0	3
4	CSC432	Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CES451	Structural Analysis Sessional-I	0	0	3	1.5	3
7	CES452	Design of Concrete Structures Sessional	0	0	3	1.5	3
8	CSS482	Data Structure Sessional	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CEC501	Structural Analysis-II	3	1	0	4.0	4
2	CEC502	Design of Steel Structures	3	1	0	4.0	4
3	CEC503	Soil Mechanics	3	0	0	3.0	3
4	CEC504	Transportation Engineering	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CES551	Structural Analysis Sessional-II	0	0	3	1.5	3
7	CES552	Design of Steel Structures Sessional	0	0	3	1.5	3
8	CES553	Transportation Engineering and Soil Mechanics Laboratory	0	0	3	1.5	3
9	CES554	Surveying Laboratory and Estimation Sessional	1	0	3	2.5	4
10	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	16	3	12	25.0	31

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CEC601	Water Resource Engineering	3	1	0	4.0	4
3	CEC602	Foundation Engineering	3	0	0	3.0	3
4	CEC603	Environmental Engineering	3	1	0	4.0	4
5	CEE610 --	Depth Elective - 1	3	0	0	3.0	3
6	CEE610 --	Depth Elective - 2	3	0	0	3.0	3
7	CES651	Environmental Engineering Laboratory and Computational Laboratory- I	0	0	3	1.5	3
8	CES653	Concrete Technology Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	18	2	6	23.0	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	CEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	CEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CES751	Project - I	0	0	4	2.0	4
7	CES752	Structural Engineering Laboratory and Computational Laboratory -II	0	0	3	1.5	3
8	CES754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
		TOTAL	15	0	9	19.5	24
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CES851	Project - II	0	0	15	5.0	15
5	CES852	Project Seminar	0	0	0	1.0	0
6	CES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	21.0	21.5	25.0	23.0	19.5	16.0	170.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

CHEMICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC301	Process Calculations	3	1	0	4.0	4
3	CHC302	Chemical Engineering Thermodynamics	3	1	0	4.0	4
4	CHC303	Fluid Mechanics	3	1	0	4.0	4
5	CYC331	Chemistry - II	3	0	0	3.0	3
6	CYS381	Chemistry Laboratory- II	0	0	3	1.5	3
7	CHS351	Chemical Engineering Computing Laboratory- I	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CHC401	Heat Transfer	3	1	0	4.0	4
2	CHC402	Mechanical Operation	3	1	0	4.0	4
3	CHC403	Mass Transfer- I	3	1	0	4.0	4
4	MEC432	Mechanical Design of Equipment and Components	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CHS451	Fluid Mechanics Laboratory	0	0	3	1.5	3
7	CHS452	Process Equipment Design- I Sessional	0	0	3	1.5	3
8	WSS481	Workshop Practice- II	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CHC501	Chemical Reaction Engineering	3	1	0	4.0	4
2	CHC502	Mass Transfer- II	3	1	0	4.0	4
3	CHC503	Chemical Process Technology	3	1	0	4.0	4
4	CHC504	Process Control and Instrumentation	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CHS551	Heat Transfer Laboratory	0	0	3	1.5	3
7	CHS552	Mechanical Operations Laboratory	0	0	3	1.5	3
8	CHS553	Process Equipment Design- II Sessional	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CHC601	Transport Phenomena	3	1	0	4.0	4
3	CHC602	Petroleum Refining and Petrochemicals	3	1	0	4.0	4
4	CHC603	Process Modelling and Simulation	3	0	0	3.0	3
5	CHE610 --	Depth Elective - 1	3	0	0	3.0	3
6	CHS651	Fuel Laboratory	0	0	3	1.5	3
7	CHS652	Reaction Engineering Laboratory	0	0	3	1.5	3
8	CHS653	Mass Transfer Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CHE710 --	Depth Elective - 2	3	0	0	3.0	3
3	CHE710 --	Depth Elective - 3	3	0	0	3.0	3
4	CHE710 --	Depth Elective - 4	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CHS751	Process Control and Instrumentation Laboratory	0	0	3	1.5	3
7	CHS752	Chemical Engineering Computing Laboratory- II	0	0	3	1.5	3
8	CHS753	Computer Aided Process Equipment Design Laboratory	0	0	3	1.5	3
9	CHS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	CHS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CHE810 --	Depth Elective - 5	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CHS851	Project - II	0	0	15	5.0	15
5	CHS852	Project Seminar	0	0	0	1.0	0
6	CHS853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.0	22.5	23.5	21.5	21.5	16.0	171.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

COMPUTER SCIENCE AND ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CSC301	Discrete Mathematics	3	0	0	3.0	3
3	CSC302	Digital Logic Design	3	0	0	3.0	3
4	CSC303	Data Structures and Algorithms	3	1	0	4.0	4
5	PHC331	Physics of Semiconductor Devices	3	0	0	3.0	3
6	PHS381	Semiconductor Devices Laboratory	0	0	3	1.5	3
7	CSS351	Digital Logic Design Laboratory	0	0	3	1.5	3
8	CSS352	Data Structures and Algorithms Laboratory	0	0	4	2.0	4
9	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	2	10	22.0	27
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CSC401	Computer Organization and Architecture	3	1	0	4.0	4
2	CSC402	Theory of Computation	3	0	0	3.0	3
3	CSC403	Design and Analysis of Algorithms	3	1	0	4.0	4
4	CSC404	Object Oriented Programming	2	1	0	3.0	3
5	CSC405	Signals and Systems	3	0	0	3.0	3
6	YYO44*	Open Elective - I	3	0	0	3.0	3
7	CSS451	Computer Organization Laboratory	0	0	3	1.5	3
8	CSS452	Object Oriented Programming Laboratory	0	0	3	1.5	3
9	CSS453	Signal Processing Laboratory	0	0	3	1.5	3
10	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	17	3	9	24.5	29
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CSC501	Operating Systems	3	0	0	3.0	3
2	CSC502	Database Management System	3	1	0	4.0	4
3	CSC503	Compiler Design	3	0	0	3.0	3
4	CSC504	Microcontroller based Systems	3	0	0	3.0	3
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CSS551	Design and Analysis of Algorithms Laboratory	0	0	3	1.5	3
7	CSS552	Microcontroller based System Laboratory	0	0	3	1.5	3
8	CSS553	Operating Systems Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	1	9	20.5	25

Semester - VI								
Sl.	Code	Subject	L	T	S	C	H	
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3	
2	CSC601	Software Engineering	3	0	0	3.0	3	
3	CSC602	Data Communication and Computer Networks	3	1	0	4.0	4	
4	CSE610 --	Depth Elective - 1	3	0	0	3.0	3	
5	CSE610 --	Depth Elective - 2	3	0	0	3.0	3	
6	CSS651	Compiler Laboratory	0	0	3	1.5	3	
7	CSS652	Data Communication and Computer Networks Laboratory	0	0	3	1.5	3	
8	CSS653	Database Management System Laboratory	0	0	3	1.5	3	
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0	
		TOTAL	15	1	9	20.5	25	
Semester - VII								
Sl.	Code	Subject	L	T	S	C	H	
1	MSC731	Principles of Management	3	0	0	3.0	3	
2	CSE710 --	Depth Elective – 3	3	0	0	3.0	3	
3	CSE710 --	Depth Elective - 4	3	0	0	3.0	3	
4	CSE710 --	Depth Elective - 5	3	0	0	3.0	3	
5	YYO74*	Open Elective - 3	3	0	0	3.0	3	
6	CSS751	Software Engineering Laboratory	0	0	3	1.5	3	
7	CSS752	Modelling and Simulation Laboratory	0	1	3	2.5	4	
8	CSS753	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2	
9	CSS754	Project - I	0	0	3	1.0	3	
		TOTAL	15	1	11	21.0	27	
Semester - VIII								
Sl.	Code	Subject	L	T	S	C	H	
1	CSE810 --	Depth Elective - 6	3	0	0	3.0	3	
2	YYO84*	Open Elective - 4	3	0	0	3.0	3	
3	YYO85*	Open Elective - 5	3	0	0	3.0	3	
4	CSS851	Project - II	0	0	15	5.0	15	
5	CSS852	Project Seminar	0	0	0	1.5	0	
6	CSS853	Viva Voce	0	0	0	1.0	0	
		TOTAL	9	0	15	16.5	24	

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.0	24.5	20.5	20.5	21.0	16.5	169.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

ELECTRICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	EEC301	Network Analysis and Synthesis	3	1	0	4.0	4
3	EEC302	Electrical and Electronics Measurements	3	1	0	4.0	4
4	ECC331	Analog Electronics	3	1	0	4.0	4
5	PHC332	Electromagnetic Field Theory	3	0	0	3.0	3
6	PHS382	Physics Laboratory	0	0	3	1.5	3
7	EES351	Electrical and Electronics Measurements Lab	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	EEC401	Power Systems - I	3	1	0	4.0	4
2	EEC402	Electrical Machines - I	3	1	0	4.0	4
3	EEC403	Digital Electronics	3	1	0	4.0	4
4	MEC431	Fluid and Thermal Engineering	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	EES451	Network Analysis and Synthesis Laboratory	0	0	3	1.5	3
7	ECS452	Analog Electronics Laboratory	0	0	3	1.5	3
8	MES481	Fluid and Thermal Engineering Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	EEC501	Electrical Machines - II	3	1	0	4.0	4
2	EEC502	Control Systems	3	1	0	4.0	4
3	EEC503	Power Systems - II	3	1	0	4.0	4
4	EEC504	Power Electronics	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	ECS551	Digital Electronics Laboratory	0	0	3	1.5	3
7	EES552	Control Systems Laboratory	0	0	3	1.5	3
8	EES553	Electrical Machines Laboratory - I	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	EEC601	Advanced Power Systems	3	1	0	4.0	4
3	EEC602	Microprocessor and Microcontroller	3	1	0	4.0	4
4	EEE610 --	Depth Elective - 1	3	0	0	3.0	3
5	EEE610 --	Depth Elective - 2	3	0	0	3.0	3
6	EES651	Electrical Machines - II Laboratory	0	0	3	1.5	3
7	EES652	Power Electronics Laboratory	0	0	3	1.5	3
8	EES653	Power System Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	EEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	EEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	EEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	EES751	Microprocessor and Microcontroller Laboratory	0	0	3	1.5	3
7	EES752	Advanced Power System Laboratory	0	0	3	1.5	3
8	EES753	Electrical machine Design Laboratory	0	0	3	1.5	3
9	EES754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	EES755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	EEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	EES851	Project - II	0	0	15	5.0	15
5	EES852	Project Seminar	0	0	0	1.0	0
6	EES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.0	22.5	23.5	21.5	21.5	16.0	171.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

ELECTRONICS AND COMMUNICATION ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	ECC301	Network Analysis and Synthesis	3	1	0	4.0	4
3	ECC302	Electronic Devices and Circuits- I	3	1	0	4.0	4
4	ECC303	Signals and Systems	3	0	0	3.0	3
5	PHC331	Physics of Semiconductor Devices	3	0	0	3.0	3
6	PHS381	Semiconductor Devices Laboratory	0	0	3	1.5	3
7	ECS351	Electronic Devices and Circuits Laboratory	0	0	3	1.5	3
8	ECS352	Network Analysis and Synthesis Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	ECC401	Analog Communication	3	1	0	4.0	4
2	ECC402	Digital Circuits and Systems	3	1	0	4.0	4
3	ECC403	Electromagnetic Theory and Transmission Lines	3	1	0	4.0	4
4	EEC431	Control Systems	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	ECS451	Analog Communication Laboratory	0	0	3	1.5	3
7	ECS452	Digital Circuits and Systems Laboratory	0	0	3	1.5	3
8	EES481	Control Systems Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	26
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	ECC501	Digital Communication	3	1	0	4.0	4
2	ECC502	Microwave Engineering	2	1	0	3.0	3
3	ECC503	Microprocessors and Microcontrollers	3	1	0	4.0	4
4	ECC504	Electronic Devices and Circuits-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	ECS551	Digital Communication Laboratory	0	0	3	1.5	3
7	ECS552	Microwave Engineering Laboratory	0	0	3	1.5	3
8	ECS553	Microprocessors and Microcontrollers Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	22.5	27

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	ECC601	Antenna and Wave Propagation	3	0	0	3.0	3
3	ECC602	VLSI Design	3	0	0	3.0	3
4	ECC603	Digital Signal Processing	3	1	0	4.0	4
5	ECE611 --	Depth Elective - 1	3	0	0	3.0	3
6	ECE611 --	Depth Elective - 2	3	0	0	3.0	3
7	ECS651	Antenna and Wave Propagation Laboratory	0	0	3	1.5	3
8	ECS652	VLSI Design Laboratory	0	0	3	1.5	3
9	ECS653	Digital Signal Processing Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	18	1	9	23.5	28
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	ECE711 --	Depth Elective - 3	3	0	0	3.0	3
3	ECE711 --	Depth Elective - 4	3	0	0	3.0	3
4	ECE711 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	ECS751	Computer Aided Design Laboratory	0	0	3	1.5	3
7	ECS752	Electronic System Design Laboratory	0	0	4	2.0	4
8	ECS753	Advanced Communication Laboratory	0	0	3	1.5	3
9	ECS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	ECS755	Project - I	0	0	3	1.0	3
		TOTAL	15	0	15	22.0	30
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	ECE811 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	ECS851	Project - II	0	0	15	5.0	15
5	ECS852	Project Seminar	0	0	0	1.0	0
6	ECS853	Comprehensive Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.5	22.5	22.5	23.5	22.0	16.0	173.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

MECHANICAL ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	MEC301	Solid Mechanics	3	1	0	4.0	4
3	MEC302	Theory of Machines and Mechanisms	3	1	0	4.0	4
4	MEC303	Fluid Mechanics	3	1	0	4.0	4
5	MEC304	Engineering Thermodynamics	3	0	0	3.0	3
6	PHC333	Physics of Engineering Materials	3	0	0	3.0	3
7	PHS383	Physics of Engineering Materials Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	18	4	3	23.5	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	MEC401	Design of Machine Element	3	1	0	4.0	4
2	MEC402	Casting, Forming and Welding	3	1	0	4.0	4
3	MEC403	Heat and Mass Transfer	3	0	0	3.0	3
4	EEC432	Electrical Machines	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	MES451	Solid Mechanics Laboratory	0	0	3	1.5	3
7	MES452	Fluid Mechanics Laboratory	0	0	3	1.5	3
8	MES453	Mechanism Laboratory	0	0	3	1.5	3
9	EES482	Electrical Machines Laboratory	0	0	3	1.5	3
10	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	2	12	23.0	29
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	MEC501	Machining and Machine Tools	3	1	0	4.0	4
2	MEC502	IC Engine and Gas Turbines	3	0	0	3.0	3
3	MEC503	Machine Design	3	1	0	4.0	4
4	MEC504	Dynamics of Machines	2	1	0	3.0	3
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	MES551	Design and Dynamics Laboratory	0	0	3	1.5	3
7	MES552	Heat Transfer Laboratory	0	0	3	1.5	3
8	MES553	CAD/CAM Laboratory	0	0	3	1.5	3
9	WSS581	Workshop Practice- II	0	0	3	1.5	3
10	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	14	3	12	23.0	29

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	MEC601	Power Plant Engineering	2	1	0	3.0	3
3	MEC602	Industrial Engineering and Measurement	3	0	0	3.0	3
4	MEE610 --	Depth Elective - 1	3	0	0	3.0	3
5	MEE610 --	Depth Elective - 2	3	0	0	3.0	3
6	MES651	Engineering Measurement Laboratory	0	0	3	1.5	3
7	MES652	Power Generation Laboratory	0	0	3	1.5	3
8	MES653	Machine Design Sessional - I	0	0	3	1.5	3
9	MES654	Manufacturing Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	14	1	12	21.0	27
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	MEE710 --	Depth Elective - 3	3	0	0	3.0	3
3	MEE710 --	Depth Elective - 4	3	0	0	3.0	3
4	MEE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	MES751	Hydraulic Machine Laboratory	0	0	3	1.5	3
7	MES752	Machine Design Sessional - II	0	0	3	1.5	3
8	MES753	Vocational Training / Summer Internship and Seminar	0	0	3	1.5	3
9	MES754	Project - I	0	0	3	1.0	4
		TOTAL	15	0	12	20.5	27
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	MEE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	MES851	Project - II	0	0	15	5.0	15
5	MES852	Project Seminar	0	0	0	1.0	0
6	MES853	Viva Voce	0	0	0	1.0	0
		TOTAL	9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	23.5	23.0	23.0	21.0	20.5	16.0	171.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

METALLURGICAL AND MATERIALS ENGINEERING- B.TECH.

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics- III	3	1	0	4.0	4
2	MMC301	Metallurgical Thermodynamics and Kinetics	3	1	0	4.0	4
3	MMC302	Introduction of Metallurgy and Materials	3	1	0	4.0	4
4	MMC303	Non - Ferrous Process Metallurgy	3	1	0	4.0	4
5	ESC332	Economic Geology	3	0	0	3.0	3
6	ESS382	Economic Geology Laboratory	0	0	3	1.5	3
7	MMS351	Metallurgical Thermodynamics and Kinetics Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	MMC401	Transport Phenomena in Metallurgical Processes	3	1	0	4.0	4
2	MMC402	Phase Transformation and Phase Equilibria	3	1	0	4.0	4
3	MMC403	Materials Characterization	3	1	0	4.0	4
4	YYO44*	Open Elective - I	3	0	0	3.0	3
5	CSC433	Data Structures	3	0	0	3.0	3
6	CSC483	Data Structures Laboratory	0	0	3	1.5	3
7	MMS451	Transport Phenomena Laboratory	0	0	3	1.5	3
8	MMS452	Phase Transformation and Phase Equilibria Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	MMC501	Manufacturing Processes	3	1	0	4.0	4
2	MMC502	Heat Treatment of Materials	3	1	0	4.0	4
3	MMC503	Fundamentals of Plastic Deformation and Strengthening of Materials	3	1	0	4.0	4
4	MMC504	Iron Making	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	MMS551	Manufacturing Processes Laboratory - I	0	0	3	1.5	3
7	MMS552	Heat Treatment of Materials Laboratory	0	0	3	1.5	3
8	MMS553	Plastic Deformation and Strengthening of Materials Laboratory	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	MMC601	Steel Making	3	1	0	4.0	4
3	MMC602	Mechanical Working of Materials	3	0	0	3.0	3
4	MME610 --	Depth Elective - 1	3	0	0	3.0	3
5	MME610 --	Depth Elective - 2	3	0	0	3.0	3
6	MMS651	Mineral Beneficiation Laboratory	0	0	3	1.5	3
7	MMS652	Mechanical Working of Materials Laboratory	0	0	3	1.5	3
8	MMS653	Material Characterization Laboratory -I	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
TOTAL			15	1	9	20.5	25
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	MME710 --	Depth Elective - 3	3	0	0	3.0	3
3	MME710 --	Depth Elective - 4	3	0	0	3.0	3
4	MME710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	MMS751	Manufacturing Processes Laboratory - II	0	0	3	1.5	3
7	MMS752	Material Characterization Laboratory -II	0	0	3	1.5	3
8	MMS753	Ferrous Process Metallurgy Laboratory	0	0	3	1.5	3
9	MMS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
10	MMS755	Project - I	0	0	3	1.0	3
TOTAL			15	0	14	21.5	29
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	MME810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	MMS851	Project - II	0	0	15	5.0	15
5	MMS852	Project Seminar	0	0	0	1.0	0
6	MMS853	Viva Voce	0	0	0	1.0	0
TOTAL			9	0	15	16.0	24

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	TOTAL
Credit Unit	44.0	22.0	22.5	23.5	20.5	21.5	16.0	170.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

BIOTECHNOLOGY- DUAL DEGREE (B.TECH.-M.TECH.)

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC331	Process Calculation and Thermodynamics	3	1	0	4.0	4
3	BTC301	Cell biology and Genetics	3	1	0	4.0	4
4	BTC302	Microbiology and Bioprocess Technology	3	1	0	4.0	4
5	BTC303	Biochemistry and Enzyme Technology	3	0	0	3.0	3
6	BTS352	Biochemistry Laboratory	0	0	3	1.5	3
7	BTS 351	Microbiology Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	BTC401	Molecular Biology and Recombinant DNA Technology	3	1	0	4.0	4
2	CHC431	Unit Operation of Chemical Engineering- I	3	1	0	4.0	4
3	BTC402	Immunology	3	1	0	4.0	4
4	CSC431	Programming and Data Structure	3	0	0	3.0	3
5	YYO44*	Open Elective - 1	3	0	0	3.0	3
6	BTS451	Cell Biology and Genetics Laboratory	0	0	3	1.5	3
7	CHS481	Unit Operations of Chemical Engineering-I Laboratory	0	0	3	1.5	3
8	CSS481	Programming and Data Structure Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	BTC501	Biochemical Reaction Engineering and Bioreactor Design	3	1	0	4.0	4
2	BTC502	Cell and Tissue Culture	3	1	0	4.0	4
3	BTC503	Bioseparation and Biochemical Analysis	3	1	0	4.0	4
4	CHC531	Unit Operations of Chemical Engineering-II	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	BTS551	Immunology Laboratory	0	0	3	1.5	3
7	BTS552	Bioprocess Technology Laboratory	0	0	3	1.5	3
8	CHS581	Unit Operations of Chemical Engineering Laboratory- II	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	BTC601	Bioinformatics	2	1	0	3.0	3
3	CSC631	Database Management System	2	1	0	3.0	3
4	CHC631	Process Control and Instrumentation	2	1	0	3.0	3
5	BTE610 --	Depth Elective - 1	3	0	0	3.0	3
6	BTE610 --	Depth Elective - 2	3	0	0	3.0	3
7	BTS651	Molecular Biology and rDNA Technology Laboratory	0	0	3	1.5	3
8	BTS652	Bioinformatics Laboratory	0	0	3	1.5	3
9	CSS681	Database Management System Laboratory	0	0	3	1.5	3
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	BTE710 --	Depth Elective - 3	3	0	0	3.0	3
3	BTE710 --	Depth Elective - 4	3	0	0	3.0	3
4	BTE710 --	Depth Elective - 5	3	0	0	3.0	3
5	YYO74*	Open Elective - 4	3	0	0	3.0	3
6	BT1001	Advanced Bioprocess Engineering	3	1	0	4.0	4
7	BTS751	Bioseparation and Biochemical Analysis Laboratory	0	0	3	1.5	3
8	BTS752	Cell and Tissue Culture Laboratory	0	0	3	1.5	3
9	BTS753	Biochemical Reaction Engineering Laboratory	0	0	3	1.5	3
10	BTS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
11	BTS755	Project – I	0	0	3	1.0	3
		TOTAL	18	1	14	25.5	33
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	BTE810 --	Depth Elective - 6	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	BT2002	Genomics , Proteomics and Bioinformatics	3	1	0	4.0	4
5	BT2003	Industrial Production of Biopharmaceutical Product	3	1	0	4.0	4
6	BT2053	Structural Bioinformatics Laboratory	0	0	3	2.0	3
7	BTS855	Project – II	0	0	6	2.0	6
		TOTAL	15	2	9	21.0	31

Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	BT9027	Advanced rDNA Technology & Cellular Biotechnology	3	1	0	4.0	4
2	BT1051	Advanced Bioprocess Engineering Laboratory	0	0	3	2.0	3
3	BT3055	Major Project-I	0	0	22	11.0	22
4	BT3056	Major Project Seminar-I	0	0	0	2.0	0
		TOTAL	8	0	22	19.0	29
Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	BT4055	Major Project-II	0	0	22	11.0	22
2	BT4056	Major Project Seminar-II and Viva Voce	0	0	0	3.0	0
3	BT4057	Comprehensive Viva Voce	0	0	0	1.0	0
		TOTAL	4	0	22	15.0	22

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	38.0	22.0	22.5	23.5	22.5	25.5	21.0	19.0	15.0	209.0

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

CHEMICAL ENGINEERING- DUAL DEGREE (B.TECH.-M.TECH.)

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics - III	3	1	0	4.0	4
2	CHC301	Process Calculations	3	1	0	4.0	4
3	CHC302	Chemical Engineering Thermodynamics	3	1	0	4.0	4
4	CHC303	Fluid Mechanics	3	1	0	4.0	4
5	CYC331	Chemistry - II	3	0	0	3.0	3
6	CYS381	Chemistry Laboratory- II	0	0	3	1.5	3
7	CHS351	Chemical Engineering Computing Laboratory- I	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (Optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CHC401	Heat Transfer	3	1	0	4.0	4
2	CHC402	Mechanical Operation	3	1	0	4.0	4
3	CHC403	Mass Transfer- I	3	1	0	4.0	4
4	MEC432	Mechanical Design of Equipment and Components	3	0	0	3.0	3
5	YYO44*	Open Elective - I	3	0	0	3.0	3
6	CHS451	Fluid Mechanics Laboratory	0	0	3	1.5	3
7	CHS452	Process Equipment Design- I Sessional	0	0	3	1.5	3
8	WSS481	Workshop Practice- II	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (Optional)	0	0	0	0.0	0
		TOTAL	15	3	9	22.5	27
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CHC501	Chemical Reaction Engineering	3	1	0	4.0	4
2	CHC502	Mass Transfer- II	3	1	0	4.0	4
3	CHC503	Chemical Process Technology	3	1	0	4.0	4
4	CHC504	Process Control and Instrumentation	3	1	0	4.0	4
5	YYO54*	Open Elective - 2	3	0	0	3.0	3
6	CHS551	Heat Transfer Laboratory	0	0	3	1.5	3
7	CHS552	Mechanical Operations Laboratory	0	0	3	1.5	3
8	CHS553	Process Equipment Design- II Sessional	0	0	3	1.5	3
9	XXS581	Co-curricular Activities - V (Optional)	0	0	0	0.0	0
		TOTAL	15	4	9	23.5	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	HSC631	Economics and Management Accountancy	3	0	0	3.0	3
2	CHC601	Transport Phenomena	3	1	0	4.0	4
3	CHC602	Petroleum Refining and Petrochemicals	3	1	0	4.0	4
4	CHC603	Process Modelling and Simulation	3	0	0	3.0	3
5	CH610--	Depth Elective - 1	3	0	0	3.0	3
6	CHS651	Fuel Laboratory	0	0	3	1.5	3
7	CHS652	Reaction Engineering Laboratory	0	0	3	1.5	3
8	CHS653	Mass Transfer Laboratory	0	0	3	1.5	3
9	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	2	9	21.5	26
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CHE710 --	Depth Elective - 2	3	0	0	3.0	3
3	CHE710 --	Depth Elective - 3	3	0	0	3.0	3
4	CHE710 --	Depth Elective - 4	3	0	0	3.0	3
5	YYO74*	Open Elective - 3	3	0	0	3.0	3
6	CH1001	Advanced Fluid Dynamics	3	1	0	4.0	4
7	CHS751	Process Control and Instrumentation Laboratory	0	0	3	1.5	3
8	CHS752	Chemical Engineering Computing Laboratory- II	0	0	3	1.5	3
9	CHS753	Computer Aided Process Equipment Design Laboratory	0	0	3	1.5	3
10	CHS754	Vocational Training / Summer Internship and Seminar	0	0	2	1.0	2
		TOTAL	18	1	11	24.5	30
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CHE810 --	Depth Elective - 5	3	0	0	3.0	3
2	YYO84*	Open Elective - 4	3	0	0	3.0	3
3	YYO85*	Open Elective - 5	3	0	0	3.0	3
4	CH2001	Advanced Process Dynamics and Control	3	1	0	4.0	4
5	CH2002	Advanced Mass Transfer	3	1	0	4.0	4
6	CH2003	Advanced Heat Transfer	3	1	0	4.0	4
7	CH2053	Project I	0	0	9	3.0	9
		TOTAL	18	3	9	24.0	30
Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	CH1002	Environmental Engineering	3	1	0	4.0	4
2	CH1003	Advanced Process Modelling and Simulation	3	1	0	4.0	4
3	CH3051	Project-II	0	0	22	11.0	22
4	CH3052	Project Seminar-I	0	0	0	2.0	0
		TOTAL	6	2	22	21.0	30
Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	CH4051	Project-III	0	0	22	11.0	22
2	CH4052	Project Seminar-II and Viva Voce	0	0	0	3.0	0
3	CH4053	Grand Viva Voce	0	0	0	1.0	0
		TOTAL	4	0	22	15.0	22

CREDIT UNIT OF THE DUAL DEGREE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	44.0	22.0	22.5	23.5	21.5	24.5	24.0	21.0	15.0	218.0

2018 UNDERGRADUATE ADMISSION BATCH

OPEN ELECTIVE SUBJECT BASKETS

THE STUDENT CAN OPT ANY OPEN ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER, EXCEPT THE SUBJECT(S) WITH HIS/ HER OWN DEPARTMENT CODE.

Basket– 1 (4th Semester)

MAO441	Discrete Mathematics
MAO442	Probability and Stochastic Processes
PHO441	Quantitative Biology
BTO441	Food Biotechnology
CEO440	Introduction to Earthquake Engineering
CEO441	Elementary Civil Engineering
CEO442	Experimental Methods & Analysis
CHO441	Process Heat Transfer
CSO441	Data Structures and Algorithms
CSO442	Object Oriented Technology
ECO440	Digital Systems
ECO441	Communication Engineering
EEO440	Fundamentals of Power Systems
EEO441	Concept of Industrial Electronics
EEO442	Energy Conservation, Audit and ICT & IOT Application For Monitoring
EEO443	Network Theory
XEO441	Brain to Mind Creation

Basket– 2 (5th Semester)

HSO540	Entrepreneurship Development: Theory and Practice
HSO541	Statistical Techniques for Economics
HSO542	Culture and Communication
HSO543	Personality Development
HSO544	Soft Skills
MAO541	Mathematical Methods for Engineers
MAO542	Linear Algebra
MAO543	Modern Algebra
PHO541	Thin Film Technology
BTO540	Mineral Biotechnology
CEO540	Numerical Methods in Engineering
CEO541	Engineering Computing and Simulation with Scilab
CEO542	Introduction to Random Vibrations
CHO542	Fuels & Combustion
CHO543	Industrial Water Treatment
CSO541	Fundamentals of Algorithms
CSO542	Database Management System
CSO543	Computer Organization
CSO544	Operating Systems
ECO540	Mechatronics
ECO541	Probability Theory for Engineering Application
ECO542	Artificial Intelligence and Soft Computing
EEO540	Measurement and Instrumentation
EEO541	Fundamentals of Control Systems
EEO542	Power System Analysis and Design
MEO541	Experimental methods in Engineering
MMO541	Basic Manufacturing Process

Basket– 3 (7th Semester)

HSO740	Indian Writings in English
HSO741	Development Economics and Sustainable Development
CYO741	Analytical and environmental chemistry
PHO741	Nuclear Reactor Technology
BTO740	Genetic Engineering
CEO740	Mechanics of Composite
CEO741	Optimization in Engineering Design
CEO742	Theory of Elasticity and Plasticity
CHO741	Non-linear Dynamics
CSO741	Software Engineering
CSO742	Multimedia Technologies
CSO743	Computer Networks
ECO740	Biomedical Instrumentation
ECO741	Embedded Systems
EEO740	Concept of Electrical Machines & Drives
EEO741	Biomedical Instrumentation
EEO742	Renewable Energy
MEO741	Nonconventional Energy Systems
MEO742	Robotics
XEO741	Human Resource Management
XEO742	Medical Instrumentation and Assistive Technology

Basket– 4 (8th Semester)

MSO841	Marketing Research and Analytics
PHO841	Quantum Physics
BTO840	Industrial Biotechnology
CEO840	Finite Element Analysis and Applications
CEO841	Disaster Management and Mitigation
CEO842	Experimental Methods in Engineering
CHO841	Bioengineering & Industrial applications
CSO841	CAD for VLSI
CSO842	Internet and Web Technologies
CSO843	Soft Computing Techniques
CSO844	Compiler Design
ECO840	Structronics
ECO841	Signal Processing
ECO842	Introduction to VLSI
EEO840	Concept of Electrical Machines and Drives
EEO841	Biomedical Instrumentation
EEO842	Renewable Energy
EEO843	Digital Image Processing
MEO841	Nonlinear Dynamical Systems
MMO841	Material Science

Basket– 5 (8th Semester)

HSO850	International Economics and Globalization
HSO851	Literature and Cinema
HSO852	Classics of Literature
MSO851	Investment Management and Stock Market
CYO851	Spectroscopic methods of chemical analysis
PHO851	Fiber-Optics Communication
PHO852	Optical Instrumentation
MAO851	Operations Research
MAO852	Advanced Numerical Analysis
MAO853	Optimization Techniques
BTO850	Medical Biotechnology
CEO850	Watershed Planning and Management
CEO851	Elementary Structural Design
CEO852	Reliability Engineering
CHO851	Energy, Environment & Sustainability
CSO851	Machine Learning
CSO852	Data Analytics
CSO853	Distributed Computing
CSO854	Game Theory and its Applications
CSO855	Information Security
CSO856	Optical Network
ECO850	Communication Network
ECO851	Mobile Computing
ECO852	MEMS Technology
EEO850	Soft Computing Techniques
EEO851	Embedded Systems and Applications
EEO852	Micro-Electro-Mechanical Systems
MEO851	Tribology
XEO851	Leadership and Corporate Strategy

2018 UNDERGRADUATE ADMISSION BATCH

DEPTH ELECTIVE SUBJECT BASKETS

THE STUDENTS PRIMARILY WILL OPT FROM THE DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED IN A PARTICULAR SEMESTER BY HIS/ HER OWN DEPARTMENT. HOWEVER, A STUDENT CAN OPT FOR DEPTH ELECTIVE SUBJECT(S) THAT ARE OFFERED BY OTHER DEPARTMENT IN A PARTICULAR SEMESTER, WITH THE PERMISSION/ CONSENT FROM HIS/ HER HEAD OF THE DEPARTMENT AND THE CONCERNED TEACHER OF THAT SUBJECT.

SIXTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE610	Animal Biotechnology
BTE611	Industrial Microbiology
BTE612	Nutraceutical and Nutrigenomics
BTE613	Human Genomics
BTE614	Molecular Virology
BTE615	Biometallurgy
BTE616	Nanobiotechnology
BTE617	Marine Biotechnology
BTE619	Folding, Misfolding and Diseases
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE610	Chemical Reactor Analysis
CHE611	Industrial Pollution Control and Treatment
CHE612	Non-conventional Energy Engineering
CHE613	Combustion Engineering
CHE614	Artificial Intelligence in Chemical Industries
	DEPARTMENT OF CIVIL ENGINEERING
CEE610	Advanced Design of Concrete Structures
CEE611	Advanced Structural Analysis
CEE612	Mechanics of Composite Structures
CEE613	Material Technology
CEE614	Applied Numerical Methods
CEE615	Bridge Engineering
CEE620	Analysis and Design of Pavement
CEE621	Finite Element Method
CEE622	Ground Improvement
CEE623	Remote sensing and GIS
CEE624	Traffic Engineering and Management
CEE625	System Approach to Civil Engineering

	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE611	Embedded System Design
CSE612	System Software
CSE613	Internet and Web Technologies
CSE614	Advanced Computer Architecture
CSE615	Optimization Techniques
CSE616	Artificial Intelligence
CSE617	Advanced Algorithms
CSE618	Information Coding Theory
CSE619	Computer Graphics
CSE620	Game Theory and its Applications
CSE621	Digital Systems Testing
CSE622	Soft Computing
CSE623	Advanced Database Systems
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE610	Artificial Intelligence & Soft Computing
ECE611	Computer Organization and Architecture
ECE612	Advanced Digital Communication
ECE613	Object Oriented Programming
ECE614	CAD for VLSI
ECE615	Active Filter Design
ECE616	VLSI Technology
ECE617	Probability and Random Signal Theory
ECE618	Data Comm. & Computer Networks
ECE619	Mobile Computing
ECE620	Nano Electronics
ECE621	Measurement & Instrumentation
ECE622	Digital IC Design
ECE623	Mechatronics Systems
ECE624	Power Electronics
ECE625	Optical Communication
	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE610	Numerical Analysis
EEE611	Instrumentation
EEE612	Modern Control Systems
EEE613	Special Electrical Machines
EEE614	Signals and Systems
EEE615	Advanced Power Electronics
EEE616	Soft Computing Theory and Applications
	DEPARTMENT OF MECHANICAL ENGINEERING
MEE 610	Automobile Engineering
MEE 611	Gas Dynamics and Propulsion
MEE 612	Mechanics of Forming and Press Working
MEE 613	Advanced Solid Mechanics
MEE 614	Advanced Machining and CNC Machine Tools
MEE 615	Operation Research
MEE 616	Mechanical Equipment Design
MEE 620	Advanced Foundry Engineering
MEE 621	Mechanics of Composite and Functionally Graded Materials
MEE 622	Engineering Optimization
MEE 623	Multi-Phase Flow and Heat Transfer
MEE 624	Tribology
MEE 625	Computer Aided Design and Manufacturing

	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME610	Engineering Materials
MME611	Electronic and Thermal Properties of Materials
MME612	Alternative Routes of Iron Making
MME613	Production of Ferroalloys
MME614	Nano Science and Technology
MME615	Ceramic Technology
MME616	Solidification Phenomena
MME617	Metal Joining Processes

SEVENTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE710	Molecular Plant Pathology
BTE711	Cancer Biology & Cell Signaling
BTE712	Food Biotechnology
BTE713	Biopharmaceutical Process Design
BTE714	Bioenergy
BTE715	Project Engineering for Biotechnology
BTE716	Structural Biology
BTE717	Environmental Biotechnology
BTE718	Proteomics and Protein Engineering
BTE719	Molecular Modelling & Drug Design
BTE720	Nanotherapeutics
BTE721	Biomaterials
BTE722	Vaccine Technology
BTE723	Stem Cell Biology
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE710	Energy Sources & Utilization
CHE711	Bioprocess and Bioreactor Engineering
CHE712	Process Engineering
CHE713	Chemical Plant Design and Economics
CHE714	Process Safety in Chemical Industries
CHE715	Membrane Separation Processes
CHE716	Process Intensification
CHE717	Colloids and Interface Engineering
CHE718	Pinch Technology
CHE719	Energy Management and Process Optimization in Chemical Industry
	DEPARTMENT OF CIVIL ENGINEERING
CEE710	Structural Dynamics
CEE711	Advanced Design of Steel Structures
CEE712	Theory of Plates and Shells
CEE713	Theory of Elasticity and Plasticity
CEE714	Structural Health Monitoring
CEE720	Soil Dynamics
CEE721	Environmental Pollution and Control
CEE722	Construction Planning and Management
CEE723	Open Channel Hydraulics
CEE724	Ground Water
CEE725	Hydrology & Irrigation Engineering
CEE730	Principles of Reliability
CEE731	Offshore Structural Dynamics
CEE732	Pre-stressed Concrete
CEE733	Advanced Concrete Technology
CEE734	Advanced Structural Mechanics

	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE710	Machine Learning
CSE711	Graph Theory
CSE712	Electronic Design Automation
CSE713	Natural Language Processing
CSE714	Data Warehousing and Data Mining
CSE715	Digital Image Processing
CSE716	Data Analytics
CSE717	Biometrics
CSE718	Cryptography and Network Security
CSE719	Multimedia Information Systems
CSE720	Cellular Automata and its Application
CSE721	Computational Geometry
CSE722	Complex Network Theory
CSE723	Pattern Recognition
CSE724	Semantic Web Technology
CSE725	Human Computer Interaction
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE710	Detection and Estimation Theory
ECE711	Information Theory & Coding
ECE712	Analog IC Design
ECE713	FPGA Based Design
ECE714	MEMS and Microsystems Technology
ECE715	Machine Learning
ECE716	Millimetre Wave Technology
ECE717	RF ID Technology and Applications
ECE718	VLSI System Design
ECE719	Telecommunication Networks
ECE720	Advanced Semiconductor Devices
ECE721	Random Processes
ECE722	Microwave Circuits & Techniques
ECE723	Semiconductor Device Modelling
ECE724	Biomedical Instrumentation
ECE725	Adhoc and Sensor Networks

	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE710	Renewable Energy Systems
EEE711	Advanced Power Converters
EEE712	Generalized Theory of Electrical Machines
EEE713	Electrical Drives
EEE714	Power System Planning, Operation and Control
EEE715	Embedded Systems
EEE716	FACTS Device
EEE717	Generation & Utilization of Electrical Power
EEE718	Advanced Control Systems
EEE719	Microprocessor & Embedded Systems
EEE720	Digital Signal Processing
	DEPARTMENT OF MECHANICAL ENGINEERING
MEE710	Finite Element Method
MEE711	Computational Fluid Dynamics and Heat Transfer
MEE712	Design and Optimisation of Thermal Systems
MEE713	Non-Conventional Machining
MEE714	Advanced Welding Technology
MEE715	Robotics
MEE716	Mechanical Equipment Design
MEE717	Control Systems
MEE718	Fundamentals of Combustion
MEE719	Modelling and Simulation of Dynamic Systems
MEE720	Non-Linear Vibration
MEE721	Convective Heat and Mass Transfer
MEE722	Additive Manufacturing
MEE723	Energy Conversion Systems
MEE724	Hydraulic Machines
	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME710	Functional Materials
MME711	Fatigue, Creep and Fracture
MME712	Computational Materials Engineering
MME713	Fuel, Furnace and Refractories
MME714	Powder Metallurgy
MME715	Secondary Steel Making
MME716	Composite Materials
MME717	Corrosion Engineering
MME718	Energy and Environment in Metallurgical Industries

EIGHTH SEMESTER

	DEPARTMENT OF BIOTECHNOLOGY
BTE810	Plant Developmental Biology
BTE811	Bioprocess Plant & Equipment Design
BTE812	Medical & Pharmaceutical Biotechnology
BTE813	GM Crops
BTE814	Bioethics & IPR
BTE815	Environmental Microbiome
	DEPARTMENT OF CHEMICAL ENGINEERING
CHE810	Multiphase Flow
CHE811	Process Analysis and Optimisation
CHE712	Boiling Heat Transfer
CHE813	CFD Applications in Chemical Engineering
CHE814	Nanotechnology
	DEPARTMENT OF CIVIL ENGINEERING
CEE810	Sediment transport
CEE811	Slope Stability and Reinforced Earth
CEE812	Soil Structure Interaction
CEE813	Industrial Waste
CEE814	Water Resources System Planning & Management
CEE815	Machine Foundation
	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CSE811	Distributed Systems
CSE812	Computer Vision
CSE813	Optical Networks
CSE814	Internet Of Things
CSE815	Cloud Computing
CSE816	Mobile Computing
CSE817	Expert Systems
	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ECE810	Wireless Communication
ECE811	Mixed Signal IC Design
ECE812	Broadband Communication
ECE813	Digital Image Processing
ECE814	Error Control Coding
ECE815	Embedded System Design
ECE816	RF and MMIC
ECE817	Design with Op. Amps. & Analog Integrated Circuits
ECE818	Satellite Communication
ECE819	RF IC Design
ECE820	Low Power Circuits & Systems
ECE821	Advanced Antenna Synthesis
ECE822	DSP Architectures in VLSI
ECE823	Internet of Things (IoT) Technology
ECE824	VLSI Testing and Verification
ECE825	Statistical Signal Processing
	DEPARTMENT OF ELECTRICAL ENGINEERING
EEE810	Power System Transients & Power Quality
EEE811	Smart Grid

	DEPARTMENT OF MECHANICAL ENGINEERING
MEE 810	Solar Energy
MEE 811	Mechatronics
MEE 812	Micro and Nano Manufacturing
MEE 813	Microfluidics
MEE 814	Machine Tool Engineering and Automation
MEE 815	Theory of Plates
MEE 816	Advanced Mechanical Vibration
	DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING
MME810	Nano Science and Technology
MME811	FEM Modelling and Simulation for Materials Design
MME812	Mathematical Modelling and Simulation
MME813	Raw Materials Preparation for Iron and Steel Making

CURRICULUM OF 2018 UNDERGRADUATE ADMISSION BATCH

CHEMISTRY- 5 YEAR INTEGRATED MSC

Semester - III							
Sl.	Code	Subject	L	T	S	C	H
1	MAC331	Mathematics – III	3	1	0	4.0	4
2	CYC301	State of Matter and Chemical Thermodynamics	3	1	0	4.0	4
3	CYC302	Atomic Structure and Chemical Bonding	3	1	0	4.0	4
4	CYC303	Stereochemistry and Basic Principle of Organic Chemistry	3	1	0	4.0	4
5	PHC334	Physics – II	3	0	0	3.0	3
6	PHS384	Physics- II Laboratory	0	0	3	1.5	3
7	CYS351	Qualitative Analysis of Organic Samples Laboratory	0	0	3	1.5	3
8	XXS381	Co-curricular Activities - III (optional)	0	0	0	0.0	0
		TOTAL	15	4	6	22.0	25
Semester - IV							
Sl.	Code	Subject	L	T	S	C	H
1	CYC401	Biochemistry: Structure and Function	3	0	0	3.0	3
2	CYC402	Phase-Equilibrium, Chemical Kinetics and Catalysis	3	1	0	4.0	4
3	CYC403	Chemistry of Elements and Radioactivity	3	1	0	4.0	4
4	CYC404	Organic Reaction Mechanism and Reactive Intermediates	3	1	0	4.0	4
5	YYE44*/ HSC431	Open Elective - 1/ Psychology	3	0	0	3.0	3
6	CYS451	Thermodynamic Properties of Solution and Mixture Laboratory	0	0	4	2.0	4
7	CYS452	Identification of Acidic and Basic Radicals Laboratory	0	0	4	2.0	4
8	CYS453	Biochemistry Laboratory	0	0	3	1.5	3
9	XXS481	Co-curricular Activities - IV (optional)	0	0	0	0.0	0
		TOTAL	15	3	11	23.5	29
Semester - V							
Sl.	Code	Subject	L	T	S	C	H
1	CYC501	Fundamentals of Electrochemistry and Surface Chemistry	3	1	0	4.0	4
2	CYC502	Chemistry in Solution and Solid State Chemistry	3	1	0	4.0	4
3	CYC503	Chemistry of Heterocyclic Compounds and Natural Products	3	1	0	4.0	4
4	CYC504	Industrial Chemistry	3	0	0	3.0	3
5	YYE54*	Open Elective – 2	3	0	0	3.0	3
6	CYS551	Chemical Kinetics, Surface Chemistry and Conductometry Laboratory	0	0	3	1.5	3
7	CYS552	Quantitative estimation of metal ions in mixture	0	0	4	2.0	4
8	CYS553	Quantitative Analysis of Organic Samples	0	0	3	1.5	3
9	XXS581	Co-curricular Activities- V (optional)	0	0	0	0.0	0
		TOTAL	15	3	10	23.0	28

Semester - VI							
Sl.	Code	Subject	L	T	S	C	H
1	CYC601	Basics of Photochemistry, Spectroscopy, Group Theory and Data Analysis	3	1	0	4.0	4
2	CYC602	Coordination Chemistry	3	1	0	4.0	4
3	CYC603	Reagents in Organic Synthesis	3	1	0	4.0	4
4	CYE610 --	Departmental Elective-1	3	0	0	3.0	3
5	XEC631	Economics and Management Accountancy	3	0	0	3.0	3
6	CYS651	Potentiometric and Colorimetric Analysis	0	0	3	1.5	3
7	CYS652	Analysis of Ores and Alloys	0	0	4	2.0	4
8	CYS653	Single Step Synthesis of Organic Compounds	0	0	4	2.0	4
9	CYS654	Comprehensive Viva Voce – I	0	0	0	1.0	0
10	XXS681	Co-curricular Activities - VI (Optional)	0	0	0	0.0	0
		TOTAL	15	3	10	24.5	28
Semester - VII							
Sl.	Code	Subject	L	T	S	C	H
1	MSC731	Principles of Management	3	0	0	3.0	3
2	CYC701	Quantum Chemistry and Spectroscopy	3	1	0	4.0	4
3	CYC702	Inorganic Reaction Mechanisms and Magnetochemistry	3	1	0	4.0	4
4	CYC703	Concept of Organic Synthesis and Asymmetric Synthesis	3	1	0	4.0	4
6	CYC704	Mathematical and Computational Chemistry	3	0	0	3.0	3
7	CYS751	Spectrophotometric Analysis	0	0	3	1.5	3
8	CYS752	Spectrophotometric Estimation of Cations and Anions	0	0	3	1.5	3
9	CYS753	Separation and Identification of Organic Compounds from Binary Mixture	0	0	4	2.0	4
		TOTAL	15	3	10	23.0	28
Semester - VIII							
Sl.	Code	Subject	L	T	S	C	H
1	CYC801	Chemical, Statistical Thermodynamics and Electrochemistry	3	1	0	4.0	4
2	CYC802	Organometallic Compounds and Bioinorganic Chemistry	3	1	0	4.0	4
3	CYC803	Pericyclic Reactions and Organic Photochemistry	3	1	0	4.0	4
4	CYE810 --	Departmental Elective- 2	3	0	0	3.0	3
5	CYS851	Advanced Physical Chemistry Practical	0	0	4	2.0	4
6	CYS852	Synthesis and Characterisation of Complex Compounds	0	0	3	1.5	3
7	CYS853	Chromatographic Separation of Organic Compounds	0	0	3	1.5	3
		TOTAL	12	3	10	20.0	25
Semester - IX							
Sl.	Code	Subject	L	T	S	C	H
1	CYE9 --	Special subject -1	3	1	0	4.0	4
2	CYE9 --	Special subject -2	3	1	0	4.0	4
3	CYE9 --	Special subject -3	3	1	0	4.0	4
4	CYE9 --	Special subject -4	3	1	0	4.0	4
5	CYS9 --	Special subject Practical	0	0	3	1.5	3
6	CYS951	Project- I	0	0	3	1.0	4
7	CYS952	Vocational training/ Summer internship/ Term Paper	0	0	0	1.0	0
8	CYS953	Comprehensive Viva Voce – II	0	0	0	1.5	0
		TOTAL	12	4	7	21.0	23

Semester - X							
Sl.	Code	Subject	L	T	S	C	H
1	CYS051	Project – II/ Internship	0	0	30	10.0	30
2	CYS052	Seminar & Viva voce	0	0	0	2.0	0
		TOTAL	0	0	30	12.0	30

CREDIT UNIT OF THE PROGRAM:

Semester	I + II	III	IV	V	VI	VII	VIII	IX	X	TOTAL
Credit Unit	44.0	22.0	23.5	23.0	24.5	23.0	20.0	21.0	12.0	213.0

Baskets of Departmental Electives:

	Elective-1
CYE611	Analytical and Environmental Chemistry
CYE612	Chromatographic Separation and Instrumental Methods of Analysis
	Elective-2
CYE811	Advanced Natural Products and Medicinal Chemistry
CYE812	Spectroscopic Methods of Chemical Analysis

Special subjects:

	Physical Chemistry specialisation:
CYE911	Advanced Quantum Chemistry and Application of Group Theory
CYE912	Non-Equilibrium Thermodynamics and Biophysical Chemistry
CYE913	Material Chemistry and Advanced Spectroscopy
CYE914	Electrode Kinetics and Corrosion Science
CYS961	Advanced Physical Chemistry-II Laboratory
	Inorganic Chemistry specialisation:
CYE921	Advanced Green Chemistry and Analytical Chemistry
CYE922	Synthetic Methodology for Metal Complexes and Coordination Aggregates
CYE923	Small Molecule Activation and Nuclear Chemistry
CYE924	Group theory, Applied Electrochemistry and X-ray Structure Analysis
CYS971	Environmental Sample Analysis
	Organic Chemistry specialisation:
CYE931	Application of some Important Reactions in Synthetic Organic Chemistry
CYE932	Natural Products and Drug Design
CYE933	Bioorganic Chemistry
CYE934	Advanced Stereochemistry and Structure-reactivity Correlation
CYS981	Multi Step Synthesis and Characterization of Organic Compounds