JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY

(Established by H.P.State Legislative vide Act No. 14 of 2002)
Waknaghat, P.O. Dumehar Bani, Kandaghat, Distt. Solan – 173234 (H.P.) INDIA
Website :www.juit.ac.in
Phone No. (91) 01792-257999 (30 Lines)
Fax : (91) 01792 245362

SUMMARY SHEET

Criteria	Criterion 1 – Curricular Aspects
Key Indicator	1.1. Curriculum Design and Development
Metric	1.1.2 Percentage of programmes where syllabus revision was carried out during the last five years
Response	1.1.2.1: Number of Programmes were revised out of total number of Programmes offered during the last five years: 12 1.1.2.2 : Number of all Programmes offered by the institution during the last five years: 14

The Course Revision Details

Degree	Revision
BTech All Branches	Apart from regular revisions, As per AICTE suggestion the whole course of BTech was revised for all courses in 2018 and even credits were reduced from 195 to 160.
MSc Biotechnology	The course MSc Biotechnology was started in 2019 and Department of Biotechnology (DBT) Government of India , supported MSc from 2020 onwards. The revision was carried out in 2020 as per the DBT regulations
MTech	Revision was carried out in 2019 to add the specialized fields to the MTech
Phd	Revision and addition of courses are done as per the requirement of field of work of students. In 2022 the common courses were revised as per the requirement of UGC.

Revisions are highlighted in Academic Council Minutes.

Assistant Registrar (Academics)
Jaypee University of Information Technology
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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD
ON
19th DECEMBER, 2016
IN THE
BOARD ROOM OF THE UNIVERSITY

Following were present:

Vice Chancellor

Prof. Vinod Kumar   -   Chairman

Head of the Other Institutions of the Trust

Prof. S.C. Saxena

Distinguished Academicians

Prof. Manoj Arora

Deans

Prof. Samir Dev Gupta
Prof. R.S. Chauhan

HODs

Prof. R.S. Chauhan
Prof. S.V. Bhooshan
Prof. (Dr.) S.P. Ghrera
Prof. Ashok Kumar Gupta
Prof. Karanjeet Singh
Prof. P.B. Barman
Dr. Anil Sehrawat

Professors

Prof. Sunil Kumar Khah
Prof. Veeresh S. Gali

Industry Professionals

Sh. Vinod Sharma

Assistant Registrar (Academics)
Jaypee University of Information Technology
Waknaghat, Distt. Solan (H.P.)

Non-Member Secretary

Brig. K.K. Marwah (Retd.)

At the outset Prof. S.C. Saxena welcomed Prof. Vinod Kumar as the New Chairman and Brig. K.K. Marwah (Retd.) as the New Non-Member Secretary of the Academic Council of the University.

The quorum being complete, the Chairman of the Academic Council, Prof. Vinod Kumar, Vice Chancellor called the meeting to order and accorded a very warm welcome to all the members present. The Chairman also welcomed all the new members such as Prof. Manoj Arora, Prof. Samir Dev Gupta, Sh. Vinod Sharma, Prof. Karanjeet Singh, Prof. Sunil Kumar Khah, Prof. Veeresh S. Gali and Brig. K.K. Marwah (Retd.) (Non-Member Secretary). He appreciated the contribution of outgoing members such as Prof. S.K. Kak, Prof. T.S. Lamba, Prof. R.M. K. Sinha, Prof. N.J. Rao, Prof. Hari Om Gupta, Prof. Harinder Singh, Prof. D.C. Kulshreshtha, Prof. Deepak Dahiya, Dr. D.S. Saini, Dr. Ashish Kumar. Dr. Simran Tandon, Dr. Nitin, Dr. Rakesh Kumar & Dr. S.K. Jain and complimented the hard work and dedication of all faculty and staff in the University for their contribution in making the academic programmes in the University successful.

Leave of Absence

Leave of absence was granted to the following:

1. Sh. Sunil Sharma
2. Prof. Padam Kumar

Item No. 1	**Confirmation of Minutes of Last Meeting of the Academic Council held on 12th November, 2014.**

The Minutes of the last Academic Council Meeting Held on 12th November 2014 were confirmed.

Item No. 2	**Action Taken Report**

Item No. 2 (i) regarding proposal for M. Tech by Research was withdrawn.

Item No. 2 (ii), the proposal of consideration and approval of the revised course structure of B. Tech (ICT) was withdrawn.

Rest of the Action Taken Report was approved by the Council.

Item No. 3	**Consideration of Revision in the Contents of Different Courses**

The proposals for revision in the contents of different courses of various departments including Department of Physics & Materials Science, Department of Computer Science and Engineering, Department of Electronics & Communication Engineering, Department of Biotechnology & Bioinformatics and Department of Mathematics were approved by the

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Academic Council with minor changes. The Revised Course Contents of various Departments are attached as **Appendix-I.**

Item No. 4   **To Consider Introduction of New Courses**

Item Number 4.2 regarding introduction of new courses (Program Education Objectives (PEO's) in Department of Computer Science & Engineering was withdrawn.

Prof. Manoj Arora, Vice Chancellor, PEC University suggested that the format for the course contents of each course be made common to all departments. The same was accepted by the Academic Council.

Item No. 5   **Consideration for New Programmes**

The proposal was approved by the Academic Council. The details for New Programmes is attached as **Appendix-II.**

Prof. Manoj Arora suggested nomenclature change from Software System Security to Information Security.

Item No. 6   **Consideration of New Ph.D. Program in Material Science for the Chemistry Background Students**

The proposal was approved by the Academic Council and after due discussion and deliberations it was decided that the Ph.D. Degree in respect of all departments be worded as "Awarded Ph.D. in the Department of.............on ....(the Topic)

Item No. 7   **Report of Events and Academic Issues**

The report was approved by the Academic Council.

Item No. 8   **To Create Provision of Earning Credits in B.Tech Programmes through MOOCs (Massive Open Online Courses) from NPTEL and SWAYAM**

The Courses as added by IIT, Delhi, IIT, Kharagpur and SWAYAM etc. be added.

The Agenda item was approved by the Academic Council.

Item No. 9   **Setting up an IPR Cell at JUIT**

After discussion and deliberation, members suggested that the IPR Cell should have full time Persons in the Management Committee & Students Committee. The Cell should prepare Annual Calendar for activities.

The proposal was approved by the Academic Council.

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Item No. 10 **Setting up of JUIT-IQAC**

The proposal was discussed and approved by the Academic Council.

Item No. 11 **Approval of PhD Ordinances**

The proposal was discussed and approved with minor modifications as per UGC guidelines-2016 by the Academic Council. Modified Ordinance is attached as **Appendix-III.**

Item No. 12 **Plagiarism Policy of the University**

The agenda item was discussed and approved by the Academic Council. The Plagiarism Policy of the University is attached as **Appendix-IV.**

Item No. 13 **Establishment of Innovation and Entrepreneurship Cell at JUIT**

The Agenda item was discussed and approved by the Academic Council.

Item No. 14 **Faculty Selection Committees**

Prof. S.C. Saxena suggested that the Faculty Selection Committee should have members at the level of Professors. The same was accepted by the Academic Council and a revised list for each department was made and approved. It was also approved by the Academic Council that if any member of the Expert Committee is not able to attend, the Vice Chancellor may invite any other member as expert. The List of Experts for each Department is attached as **Appendix-V.**

Item No. 15 **Approval of Minutes of Board of Studies (BoS) Meetings of Different Departments**

Minutes of Board of Studies Meetings of various departments were approved by the Academic Council

Item No. 16 **UGC Guidelines on Adoption of Choice Based Credit System**

The Proposal was approved by the Academic Council.

Item No. 17 **Introduction of Virtual Lab Developed under NMEICT Project of MHRD**

The Proposal was approved by the Academic Council.

Item No. 18 **Ratifications**

The following were discussed and ratified by the Academic Council.
18.1   Revised Evaluation System.
18.2   Procedure to be adopted in case of Student being absent in any of the Specified Examinations.
18.3   Attendance Requirements.

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Item No. 19 **Any Other Items with the Permission of the Chair**

The following points were discussed and approved by the Academic Council:-
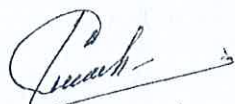
19.1 Pass and Progression of students from 2nd year onwards irrespective of their CGPA and Credits earned but:

- i) Degree will be awarded only if the Course is completed within maximum of six years, Credits earned are minimum 195, CGPA is minimum 4.5, industrial training completion certificate has been submitted and there is no disciplinary proceedings pending against the student.
- ii) Students of 1st year having CGPA less than 3.5 have to repeat the year.
- iii) Performance of Academically weak students to be reviewed by the concerned Departments and a schedule is to be prepared for such students so as to meet the above requirements.

19.2 A student who is in final year final semester may be allowed to take two one-to-one courses (8 credits) subject to maximum of 32 credits, to complete the Credit and CGPA requirements for the award of degree.
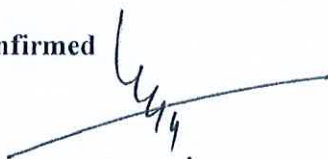
19.3 Uniform is mandatory for all the students.

As there was no other point, the meeting ended with a vote of thanks to the Chair.

Brig. K.K. Marwah (Retd.)
Non-Member Secretary

Confirmed

Prof. Vinod Kumar
Chairman

Assistant Registrar (Academics)
Jaypee University of Information Technology
Waknaghat, Distt. Solan (H.P.)

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Ref. No. JUIT/WKG/REGR/2016-17/   December 27, 2016

OFFICE ORDER

Considering the various communications received from the University Grants Commission regarding implementation of Choice Based Credit System, an item pertaining to implementation of Choice Based Credit System was placed in the Academic Council during the meeting of the Council held on 19 December, 2016 vide Item No. 16.

The Council considered the item and approved implementation of Choice Based Credit System. The objective / principle of choice based credit system shall be included in the course curriculum with effect from Academic Year – 2017-18.

Director & Academic Head

Cc to:-

- The Vice Chancellor {for kind information}
- Registrar {for kind information}
- Heads of the various departments (to disseminate the same amongst the faculty members of their respective department)
- Notice Boards

Jaypee University of Information Technology, Waknaghat, Solan (H.P.)

MINUTES OF THE EMERGENT ACADEMIC COUNCIL MEETING HELD ON JUNE 27, 2018 (WEDNESDAY)

Notice of Emergent Academic Council meeting was sent to all the members of the Academic Council vide E-mail dated 20 June, 2018. Accordingly, Emergent meeting of the Academic Council was conducted on June 27, 2018 (Wednesday) at 3.30 p.m. in the Board Room of Jaypee University of Information Technology, Waknaghat, Solan. The following members of the Council were present during the meeting:-

1.	Prof. Vinod Kumar Vice Chancellor, JUIT, Waknaghat	-	Chairman
2.	Sh. Vinod Sharma Member Nominated by Pro Chancellor	-	Member
3.	Prof. Samir Dev Gupta Director & Dean Academics	-	Member
4.	Prof. S. P. Ghrera Professor & Head – CSE / IT Deptt.	-	Member
5.	Prof. Ashok Kumar Gupta Professor & Head – CE Deptt.	-	Member
6.	Prof. Sudhir Syal Professor & Head – BT / BI Deptt.	-	Member
7.	Prof. Sunil Kumar Khah Professor – PMS Deptt. / COE	-	Member
8.	Dr. Neelkanth Assistant Professor (Sr. Grade)	-	Representative from Deptt. of Mathematics
9.	Dr. Neena Jindal Assistant Professor (Grade-I)	-	Representative from Deptt. of HSS
10.	Maj. Gen. Rakesh Bassi, SM (Retd.) Registrar & Dean Students	-	Non-Member Secretary
11.	Sh. Sanjay Kumar Verma Assistant Registrar (Academics)	-	Special Invitee

LEAVE OF ABSENCE

Some members could not attend the meeting due to their pre-engagements for the day of meeting. Leave of absence to such following members was recorded:-

Assistant Registrar (Academics)
University of Information Technology
Waknaghat, Distt. Solan (H.P.)

Jaypee University of Information Technology, Waknaghat, Solan (H.P.)

1.	Sh Sunil Sharma Ji	-	Nominated Member by Pro Chancellor
2.	Prof. Manoj Arora	-	Vice Chancellor, PEC University, Chandigarh
3.	Prof. S. C. Saxena	-	Vice Chancellor, JIIT, Noida
4.	Prof. Padam Kumar	-	Dean (R&D), JIIT, Noida
5.	Prof. Veeresh Gali	-	Prof. CE Deptt., JUIT, Noida
6.	Prof. Karanjeet Singh	-	Prof. & Head, Deptt. of Maths
7.	Prof. P. B. Barman	-	Prof. & Head, Deptt. of PMS
8.	Dr. Anupriya Kaur	-	Prof. & Head, Deptt. of HSS

Prof. Vinod Kumar, Vice Chancellor, JUIT and Chairman, Academic Council extended warm welcome to the members present in the meeting for making it convenient to attend the meeting of the Academic Council. Chairman extended welcome to Prof. Sudhir Syal, who had taken over as HOD of Deptt. of BT / BI as the newly inducted member to the Academic Council and Sh Sanjay Kr. Verma, Assistant Registrar (Academics) who had recently joined the University as special invitee.

The Chairman informed the members about the need of calling the emergent meeting of the Academic Council and agenda of the meeting was placed before the members of the Council. He stated that our University is engaged in imparting professional technical education to the youth and AICTE (All India Council for Technical Education) is the regulatory body for such technical institutions. He further informed that recently AICTE has published "Model Curriculum for Undergraduate Degree Courses in Engineering & Technology – January 2018" as a guide to all the technical institutions and mandated to follow the choice based credit system of total 160 credits for Undergraduate Technical Degree Courses. AICTE has suggested credit distribution for whole four year course (total 160 credits) considering attributes like HSS, Basic Science, Engineering Science, Professional Core, Professional Elective, Open Elective and Project.

Considering AICTE mandated 160 Credit System for Undergraduate Degree Courses, New Course Structure of 1st Year B. Tech. to be effective from current academic session i.e. 2018-19 has been designed and the same is being placed in the Academic Council for detailed deliberation among the members and approval of the Academic Council.

Accordingly, newly designed Course structure of 1st Year B. Tech. as approved by the BOS of various departments was presented through power point presentation for deliberation by the members. The following points were deliberated upon:-

1. 1st year B. Tech. Course structure should be made common for all the students. Disciplines are divided in two Groups; Group – I (BT / BI) and Group – II (ECE / CE / CSE / IT). Some specific consideration have been given to the students of BT & BI considering Maths and Biology background of the students.

2. Basic Mathematics-I has been kept as optional with less course contents for BI / BT students.

3. The departments have adopted the AICTE model curriculum. However, some variations considering the essence of the course contents exist, which are well within the AICTE recommendations.

4. 100% credits have been assigned for Lecture and Tutorial contact hours and 50% credits for Practical contact hours. i.e. for Lecture & Tutorial 01 contact hour = 01 credit and from Practical 01 contact hour = 0.5 credit

5. Engineering Graphics and Workshop Practices kept in alternative semester due to limitations of lab facilities presently e.g. for BT, BI, ECE and CE – Engineering Graphics in 1st Semester and Workshop Practices in 2nd Semester and for CSE & IT – Workshop Practices in 1st Semester and Engineering Graphics in 2nd Semester and then toggled.

6. Efforts towards self learning by reducing credits to 160 from existing 195.

Specific Changes / Modifications

1. Contact hours for mandatory Induction Program shown as Zero (0) be replaced with Dash (-) due to non credit subject.

2. Course content of Workshop Practice to include "Fitter" also. Task was assigned to Dr. Ashok Kumar Gupta, Professor & Head, Deptt. of CE

3. Contents of Mechanics be added in the course content of Physics-II. Task was assigned to Dr. P B Barman, Professor & Head, Deptt. of PMS

4. Subject codes of all the revised syllabus to be replaced with the new subject codes with 18 as initials.

5. Credits weightage for Civil Engineering Deptt. and Computer Sc Deptt. in various verticals which were beyond plus / minus 03 from AICTE model credit distribution were discussed and assigned as follows:-

   a) Civil Engineering Deptt.
   Engineering Sciences – 22, Professional Core – 51,
   Professional Elective – 21, Open Elective – 15

   b) Computer Science Deptt.
   Professional Core – 51, Open Elective - 16

CONCLUSION:

Academic Council unanimously approved the new 1st Year B. Tech. Course Structure / syllabus with above changes / modifications.

Prof. Vinod Kumar directed all Head of the departments to revise the B. Tech. Course Structure / Syllabi for 2nd, 3rd and 4th year considering above guidelines and place the same in their respective BOS for its approval and subsequent approval of the next Academic Council. He further suggested that minor changes in the course structure / syllabi should be made on yearly basis and major changes after an interval of four years. Syllabi / course content of GATE Exam to be considered and incorporated while revising syllabi of B. Tech. 2nd, 3rd and 4th year.

The Chairman, thereafter, informed the members about the coverage of JUIT at DD News Channel and about the availability of the link at www.youtube.com and www.juit.ac.in . The short film was screened for the members. The two week's induction / orientation program being conducted for the newly admitted students of B. Tech. as mandated by AICTE was also placed before the members for discussion and approval. The concept of framing the detailed program was explained. The same was approved by the Council.

There being no other points meeting ended at 5.30 p.m. with a vote of thanks to the Chair.

Maj. Gen. Rakesh Bassi, SM (Retd.)
Registrar & Non-Member Secretary

Above Minutes Confirmed / Not Confirmed

Prof. Vinod Kumar   14. 28|6|2018
Vice Chancellor & Chairman

Assistant Registrar (Academics)
Jaypee University of Information Technology
Waknaghat, Distt. Solan (H.P.)

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 25 OCTOBER, 2018

General

Prior notice for holding meeting of the Academic Council (AC) of JUIT on 25 October, 2018 was circulated among the members of the Academic Council vide E-mail dated 16 October, 2018. Accordingly, Academic Council meeting was conducted on 25 October, 2018 at 10.00 a.m. in the Board Room, Jaypee University of Information Technology, Waknaghat.

Attendance

The following members were present:-

Chairman

Prof. Vinod Kumar Vice Chancellor, JUIT, Waknaghat

Head of the Other Institution of the Trust

Prof. S. C. Saxena Vice Chancellor, JIIT, Noida

Industry Professional nominated by the Pro-Chancellor

Sh. Sunil Kumar Sharma

Heads of the Departments / Centres of the University

Prof. M. J. Nigam	Head of Deptt. of ECE
Prof. S. P. Ghrera	Head of Deptt. of CSE/IT
Prof. A. K. Gupta	Head of Deptt. of CE
Dr. Sudhir Kumar	Head of Deptt. of BT/BI
Prof. Karanjeet Singh	Head of Deptt. of Mathematics
Prof. P. B. Barman	Head of Deptt. of PMS
Dr. Anupriya Kaur	Associate Professor and Head of Deptt. of HSS

Professors other than Heads of Departments

Prof. Sunil Kumar Khah	Deptt. of PMS
Prof. Ashish Kumar	Deptt. of CE

Non-Member Secretary

Maj Gen Rakesh Bassi, SM (Retd.) Registrar and Dean of Students

Leave of Absence

Leave of absence was granted to the following members by the Chairman, Academic Council:-

Sh. Vinod Sharma	Industry Professional nominated by the Pro-Chancellor
Prof. Manoj Arora	Professor, Civil Engg. Deptt., IIT Roorkee
Prof. Padam Kumar	Dean (R&D), JIIT, Noida
Prof. Samir Dev Gupta	Director (A&R), JUIT, Waknaghat

Registrar (Academics)
University of Information Technology
Waknaghat, Distt. Solan (H.P.)

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 25 OCTOBER, 2018

Welcome and Thanks giving for Incoming / Outgoing Members

The Chairman, Academic Council extended warm welcome to all the members present in the meeting and expressed thanks to Sh. Sunil Sharma and Prof. S. C. Saxena for their presence.

He further appreciated the contributions made by Prof. S V Bhooshan and Prof. Veeresh Gali, the outgoing members of the Academic Council and welcomed the newly inducted members Prof. M J Nigam, Head of Electronics & Comm. Engg. Deptt. and Prof. Ashish Kumar, Civil Engg. Deptt.

Agenda Items

Item No. 1   **Confirmation of Minutes of last meetings of the Academic Council held on 02 December 2017 and Emergent Academic Council meeting held on 27 June 2018.**

Minutes of the meeting of the last two ACM's dated 02 December 2017 and 27 June 2018 were forwarded to the members and no comments were received. The minutes of the meetings were confirmed.

Item No. 2   **Action Taken Report**

Detailed deliberations were made on the Action Taken Report of the last two ACM's. Prof S.C Saxena and Sh Sunil Sharma appreciated the efforts made and actions initiated by the team of JUIT. Prof. S.C Saxena suggested to put up JUIT, Regulations and Ordinances, for approval in the next meeting of Executive Council. He further inquired about the progress made by the Centres of Excellence created for the specific purpose and suggested to form Monitoring Committee to review the progress of these centres from time to time.

Prof. Vinod Kumar informed the members that JUIT has adopted 05 villages under Unnat Bharat Abhiyan and working over the issues of Drinking Water, Roads, Sanitation and Medical needs of the villagers as part of activities of Centre of Excellence for Sustainable Technology for Villages.

Item No. 3   **Approval towards Caution Money from NRI, M. Tech. M.Sc., Ph.D. students as approved for B. Tech. Students from academic session 2019-20.**

Members were informed that as of now JUIT is charging Caution Money of Rs. 10000/- (Refundable) only from B. Tech. students (except NRI students) as a security amount towards recovery of damages if any. Since all students are using the same infrastructure and facilities there are equal possibilities from other students of damages / recoveries as are with the B. Tech. students. In case of involvement in disciplinary activities or damages by NRI, M. Tech., M.Sc., Ph.D. students, University presently has no option for recovery as of now.

Therefore, Academic Council approved charging Caution Money amounting to Rs. 10000/- from all UG, PG and Ph.D. students as is being charged from B. Tech. students.

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Item No. 4

Extension of maximum allowable age for admission to Undergraduate Courses in line with JEE (Mains) guidelines.

After detailed deliberation over the issue, Academic Council suggested that Status Quo be maintained till the issue is examined in more detail centrally.

Item No. 5

B. Tech. (Lateral Entry Scheme) to be aligned with AICTE guidelines i.e. additional 20% supernumerary seats (over and above the sanctioned intake) for direct admission to B. Tech. 2nd year.

Introduction of B. Tech. (Lateral Entry Scheme) as per AICTE guidelines i.e. additional 20% supernumerary seats (over and above the sanctioned intake) for admission of Diploma holders directly to B. Tech. 2nd year was approved. However it was decided that these 20% seats should not be merged with the left over seats of the last year and eligibility criteria for admission to both should be specified separately i.e. left over seats be offered to students who have completed B. Tech. 1st year and lateral entry seats be offered to students who have completed three years Diploma in same or allied branch. Specific admission criteria should be published in Admission Brochure separately for both modes of admissions.

Item No. 6

Approval for Amendment in Regulations and Ordinances for Award of Degree in Case of Admission under Lateral Entry.

Upon induction of 160 credit scheme for B. Tech., amendment in Regulations and Ordinances for award of Degree in case of admission under lateral entry was approved to 122 credits i.e. Total Credits (Minus) Credits of B. Tech. 1st year i.e. 160 – 38 (17.5+20.5) = 122 credits.

It was decided that the Transcript of a student must clearly specify that admission of student was on the basis of Lateral Entry. Credits obtained from other Institutes and JUIT be separately mentioned and then a total out of 160 credits. However, final CGPA be mentioned on the basis of credits earned at JUIT.

Item No. 7

Mapping of MOOCs with JUIT Grading system

Prof. S.C Saxena informed the members that India has adopted its education system from Britishers wherein 10 point grading scale is followed. On the other hand American education system is following 05 point grading scale. Accordingly some foreign universities are following 05 point grading scale system and hence equivalence of such grading system with the JUIT grading system is necessitated. Academic Council approved the following on the recommendations of a JUIT committee for mapping of MOOCs, with JUIT grading system.

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Information Technology
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Grading Scheme MOOCs	
>OR=	Grade
80	A+
70	A
60	B+
50	B
40	C+
<40	F

Item No. 8   **Mapping of TAMK (Tampere University of Applied Sciences, Finland) grading system with JUIT grading system**

The item as recommended was approved and following equivalence approved: -

TAMK Finland grade equivalence with IUIT Grade			
Passing Grade*	Grade Points	Indian Grade Points	JUIT Equivalent Grade
Excellent	5	10	A+
Very Good	4	9	A+
Good	3	8	A
Satisfactory	2	6-7	B+
Minimal Pass	1	4-5	B
Fail	0	0	F
Pass	S		S

*Completed courses are evaluated on the competence scale excellent (5), very good (4), good (3), satisfactory (2), minimal pass (1) and fail (0). The marking pass (S) can exceptionally be used if it has been separately stated in the study guide or individual study plan.

Item No. 9   **On-line Anti Ragging Undertaking**

Considering the odds involved in the submission of On-line anti ragging undertaking at the time of new registration / admission, the item as recommended was approved. However it was decided that no admission will be made without hard copy of the anti ragging affidavit of the parents and individual student as it is statutory requirement and cannot be ignored. Efforts shall be made for getting on-line anti ragging undertaking as soon as feasible and hard copy latest by September 30 of each year.

Item No. 10   Admission review of last three years vis-a-vis sanctioned intake – Decision for introduction of new courses, increase / decrease in take of existing courses, change of nomenclature of existing courses, discontinuation of existing courses.

Statistics showing gradual downfall in number of admissions vis a vis the sanctioned intake of the courses were considered by the Academic Council. Prof S.C Saxena highlighted that all out efforts should be made for increasing the number of admissions. It was also suggested to retain the existing intake of 570, and if required, internal adjustments (increase / reduction) within the programs be made as per the demand of the course / program.

Item No. 11   New Format of Feedback from Students.

To have more objective and comprehensive feedback from the students, new format of Feedback was placed before the Academic Council. Academic Council approved the same with a suggestion to also incorporate attributes suggested in NBA guidelines, to make it more comprehensive. Prof. S.C Saxena suggested that the same will be implemented in other Jaypee Universities.

Item No. 12   Approval of Sports Policy

The draft Sports Policy of JUIT was placed before the Academic Council and after detailed deliberation, the same was approved.

Item No. 13   Approval of the Meeting of Board of Studies (BOS) of various Departments.

Academic Council considered the Minutes of Board of Studies (BOS) of various departments and noted the same.

Item No. 14   Increase / Reduction in Sanctioned Intake of Existing Programs / Courses

Department of Electronics and Communication had recommended for reduction in the sanctioned intake of B. Tech. (Electronics & Communication Engineering) from existing 90 sanctioned intake to 60. The item was considered and resolved that the adjustment could be made within the total sanctioned intake of 570 within the courses / programs. However, total sanctioned intake of Under Graduate programs should be retained as 570.

Item No. 15   New Course Structure and detailed syllabus for B. Tech. 2nd, 3rd and 4th year with 160 Credits / 180 Credits (with Additional Certificate of Minor Area / proficiency in steam X).

The Academic Council considered and approved the following items:-

(i)   The Course Structure of 160 Credits as mandated by the AICTE and detailed syllabus from various departments as approved by their respective Board of Students (BOS) was considered and approved. The criteria for award of Honours degree will remain the same as approved in the Academic Council

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dated 02 December, 2017. The additional 20 credits for the award of certificate of Minor area / proficiency in steam X, 20 additional credits are required fulfilling the following criteria.

(i) (a) Conditions for Award of Additional Certificate of Minor Area

  i.   Earning of minimum credits, as required for award of degree.
  ii. Earns 20 credits in addition to the credits as specified for the program in the minor area.
  iii. Additional 20 credits in a minor discipline could be earned through MOOCs also and may include supporting courses from allied discipline limited to a maximum of 6 credits.
  iv. Successfully completing the Industrial Internship within the minimum period of 4 years.
  v.   Completing all the requirements of a degree in the minimum period of 4 years.

(i) (b) Conditions for award of additional certificate of proficiency in steam X

  i.   Qualify for the award of B. Tech. degree in the minimum period.
  ii. Have passed in minimum of >50% of B. Tech elective subjects taken from the steam X.
  iii. Grade Point Average in the elective subjects of (ii.) is >7.0.
  iv. Major project has been done in steam X with at least 'A' grade
  v.   CGPA for 195 credits (pre 2018 batch) / 160 credits (post 2018 batch) of B. Tech. level is >6.5

(ii)   Introduction of new Elective Courses and Course descriptions (Annexure – 18) proposed by department of Computer Sc. & Engineering.

(iii) Introduction of new elective Course of Computational Electro Magnetics (18M1WEC331) (Annexure – 19) for Ph.D. students proposed by Department of Electronics and Communication Engineering.

(iv)   New elective courses and detailed syllabus (Annexure-20) proposed by Department of Electronics and Communication Engineering.

(v)   MOOC courses as listed in item No. 15.2(iv) of agenda proposed by Department of Electronics and Communication Engineering.

(vi)   Introduction of new elective courses and course description (Annexure – 21) proposed by department of Biotechnology and Bioinformatics.

(vii) New Course of Material Science (18B11PH611) with course description (Annexure – 22) as compulsory Science elective for 5th Semester CSE, ECE and IT proposed by Department of PMS.

(viii) New Course of Engineering Physics Lab-II (18B17PH271) with L-T-P of (0-0-2) of 01 credit (Annexure – 23) in 2nd Semester of B. Tech. CSE, ECE, IT and CE as proposed by Department of PMS.

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(ix)   New Courses with course description **(Annexure – 24)** proposed by Department of Mathematics.

(x)   New Courses with course description **(Annexure – 25)** proposed by Department of Humanities and Social Sciences.

Item No. 16   **Modification in Existing Course Structure / Detailed Syllabus**

The Academic Council considered and approved the following:-

(i)   Modification in detailed syllabus of existing courses of B. Tech. (CSE/IT), M. Tech. (CSE) and M. Tech. (CSE) (IS) **(Annexure – 26)** proposed by Department of Computer Science and Engineering and Information Technology.

(ii)   Modification in existing Theory and Lab Courses **(Annexure – 27)** proposed by Department of Electronics and Communication Engineering.

(iii)   Modification in Course Structure and course description of M. Tech. (Biotechnology) **(Annexure – 28)** proposed by Department of Biotechnology and Bioinformatics.

(iv)   Department of Biotechnology and Bioinformatics has proposed for granting permission to B. Tech. (BT), B. Tech. (BI) and M.Tech.(BT) students to apply for and avail "Khorana program for Scholars", prestigious International fellowship program, jointly initiated by Department of Biotechnology (DBT), Govt. Of India, and Indo-US Science and Technology Forum (IUSSTF) for 10 weeks fellowship to the selected students at US Universities during May to July 2019 with a condition to maintain their attendance requirements as per University rules with no concession / waiver in attendance towards such participation.

(v)   Modification in the course contents of Biophysical Techniques (18B11PH212) **(Annexure – 29)** proposed by Department of PMS.

(vi)   Modification in (L-T-P) of Engineering Physics-II from (3-1-0) to (3-0-0) **(Annexure – 30)** proposed by Department of PMS.

(vii)   Modification in Course contents of Engineering Physics Lab – I (18B17PH171), Basic Engineering Physics-I (18B11PH112) and Basic Engineering Physics Lab – I (18B17PH172) **(Annexure – 31)** proposed by Department of PMS.

MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON
25 OCTOBER, 2018

Item No. 17   **Reporting Items**

Reporting items as mentioned at Agenda item 17.1 to 17.10 were considered and noted by the Academic Council.

Item No. 18   **Any other Item with the permission of the Chair.**

Prof. P.B. Barman, Professor and Head of PMS Department raised the issue of Plagiarism and measures which can be taken to deal with the issue. Prof. S.C Saxena suggested to deal with the problem by adopting following :-

The guidelines issued by the UGC should be followed. These are mandatory to each University. The guidelines of UGC may be further explained for the convenience of research scholars and faculty.

There being no other points, meeting ended with a vote of thanks to the Chair.

Maj Gen Rakesh Bassi, SM (Retd)
Registrar & Non-Member Secretary

Approved

(Prof. Vinod Kumar)
Vice – Chancellor
Chairman

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COURSE CURRICULUM OF BT & BI DEPARTMENT- 2018 batch (160 CREDITS)

B. TECH (BIOTECHNOLOGY) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2		18B1HS171	English and Technical Communication Lab	0	0	2	1	2
3		18B11MA112	Basic Mathematics -1 OR	3	1	0	4	4
4	Basic Sciences	18B11BT111	Fundamental Biology	3	0	0	3	3
5		18B17BT171	Fundamental Biology lab	0	0	2	1	2
6	Basic Sciences	18B11PH112	Basic Engineering Physics-I	3	1	0	4	4
7	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
8	Engg Science	18B17GE173	Engineering Graphics	0	0	3	1.5	3
9	Basic Sciences	18B17PH172	Basic Engineering Physics Lab-I	0	0	2	1	2
10	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
						Total	17.5	23

B. TECH (BIOTECHNOLOGY) 2nd SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	Basic Sciences	18B11MA212	Basic Mathematics-II	3	1	0	4	4
2	Basic Sciences	18B11PH212	Bioinstrumentation Techniques	3	1	0	4	4
3	Engg Science	18B11EC212	Basic Electrical Sciences	3	1	0	4	4
4	Engg Science	18B17EC272	Basic Electrical Sciences lab	0	0	2	1	2
5	Engg Science	18B11CI211	Data Structure & Algorithms	3	1	0	4	4
6	Engg Science	18B17CI271	Data Structure & Algorithms Lab	0	0	4	2	4
7	Engg Science	18BI7GE171	Workshop Practices	0	0	3	1.5	3
						Total	20.5	25

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B. TECH (BIOTECHNOLOGY) 3rd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS311	Interpersonal Dynamics Values and Ethics	3	0	0	3	3
2	Basic Sciences	18B11MA312	Probability & Statistical Techniques	3	1	0	4	4
3	Professional Core	18B11BT311	Genetics	3	1	0	4	4
4	Professional Core	18B11BT312	Biochemistry	3	0	0	3	3
5	Engg Science	18B11BT313	Thermodynamics & Chemical Processes	3	1	0	4	4
6	Basic Sciences	18B11BT314	General Chemistry	3	0	0	3	3
7	Professional Core	18B17BT371	Genetics Lab.	0	0	2	1	2
8	Basic Sciences	18B17BT372	Biochemistry Lab	0	0	2	1	2
9	Engg Science	18B17BT373	Thermodynamics & Chemical Processes lab	0	0	2	1	2
10	Basic Sciences	18B17BT374	General Chemistry Lab	0	0	2	1	2
						Total	25	29

B. TECH (BIOTECHNOLOGY) 4th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS411	Finance and Accounts	3	0	0	3	3
2	Professional Core	18B11BT411	Cell Biology and Culture Technologies	3	1	0	4	4
3	Professional Core	18B11BT412	Molecular Biology	3	0	0	3	3
4	Professional Core	18B11BT413	Introduction to Bioinformatics	3	1	0	4	4
5	Professional Core	18B11BT414	Microbiology	3	1	0	4	4
6	Professional Core	18B17BT471	Cell Biology and Culture Technologies lab	0	0	2	1	2
7	Professional Core	18B17BT472	Molecular Biology Lab	0	0	2	1	2
8	Professional Core	18B17BT473	Introduction to Bioinformatics lab	0	0	2	1	2
9	Professional Core	18B17BT474	Microbiology Lab	0	0	2	1	2
10	Mandatory Course	18B11GE411	Environmental Studies	2	0	0	Audit	2
						Total	22	28

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B. TECH (BIOTECHNOLOGY) 5th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS511	Project Management and Entrepreneurship	3	0	0	3	3
2	Engg Science	18B11BT511	Bioprocess Engineering	3	1	0	4	4
3	Professional Core	18B11BT512	Genetic Engineering	3	1	0	4	4
4	Professional Core	18B11BT513	Immunology	3	1	0	4	4
5	Engg Science	18B17BT571	Bioprocess Engineering Lab	0	0	2	1	2
6	Professional Core	18B17BT572	Genetic Engineering Lab	0	0	2	1	2
7	Professional Core	18B17BT573	Immunology Lab	0	0	2	1	2
8	Professional Elective		Departmental Elective-I	3	0	0	3	3
9	Project	18B19BT591	Minor Project Part-I	0	0	2	1	2
						Total	22	26

B. TECH (BIOTECHNOLOGY) 6th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11BT611	Downstream Processing	3	1	0	4	4
2	Professional Core	18B11BT612	Food and Agricultural Biotechnology	3	0	0	3	3
3	Professional Core	18B17BT671	Downstream Processing Lab.	0	0	2	1	2
4	Professional Core	18B17BT672	Food and Agricultural Biotechnology Lab	0	0	2	1	2
5	Professional Elective		Departmental Elective- II	3	0	0	3	3
6	Professional Elective		Departmental Elective-III	3	0	0	3	3
7	Open Elective		Open Elective-I (HSS)	3	0	0	3	3
8	Open Elective		Open Elective-II	3	0	0	3	3
9	Project	18B19BT691	Minor Project Part-II	0	0	4	2	4
10	Mandatory Course		Industrial Training				Audit	
						Total	23	27

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B. TECH (BIOTECHNOLOGY) 7th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Departmental Elective- IV	3	0	0	3	3
2	Open Elective		Open Elective - III	3	0	0	3	3
3	Open Elective		Open Elective - IV	3	0	0	3	3
4	Project	18B19BT791	Major Project Part I	0	0	10	5	10
5	HSS		Indian Constitution	1	0	0	Audit	1
						Total	14	20

B. TECH (BIOTECHNOLOGY) 8th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Departmental Elective- V	3	0	0	3	3
2	Professional Elective		Departmental Elective- VI	3	0	0	3	3
3	Open Elective		Open Elective-V	3	0	0	3	3
4	Project	18B19BT891	Major Project Part II	0	0	14	7	14
						Total	16	23

TOTAL CREDITS		160	
TOTAL HOURS		200	
HSS		12	
Basic Science		25	
Engg Science		28	
Professional CORE		47	
Professional Elective		18	
OE		15	
PROJECT		15	
TOTAL CREDITS		160	160

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B. TECH (BIOTECHNOLOGY)

PROFESSIONAL ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT531	Phytopharmaceuticals and Biologicals	3	0	0	3	3
2	Professional Elective	18B1WBT532	Comparative & Functional Genomics	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT631	Peptide Therapeutics	3	0	0	3	3
2	Professional Elective	18B1WBT632	Infectious Diseases	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT633	Nano-Biotechnology	3	0	0	3	3
	Professional Elective	18B1WBT634	Bioenergy & Biofuels	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-IV

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT733	Industrial Enzymes Technologies	3	0	0	3	3
	Professional Elective	18B1WBT734	Intellectual Property Rights & Commercialization	3	0	0	3	3
						Total	3	3

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PROFESSIONAL ELECTIVE-V

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT831	Genetic Counselling	3	0	0	3	3
2	Professional Elective	18B1WBT832	Traditional Bioprocessing & Their Up Scaling	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-VI

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT833	Diagnostics & Vaccine Manufacture	3	0	0	3	3
2	Professional Elective	18B1WBI834	NGS Data Analysis & Applications	3	0	0	3	3
						Total	3	3

OPEN ELECTIVE-I

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WBT635	Biology for Engineers	3	0	0	3	3
						Total	3	3

OPEN ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WBT636	Industrial Chemistry	3	0	0	3	3
						Total	3	3

OPEN ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	19B1WBT731	Sustainable Technologies for Waste Management	3	0	0	3	3
						Total	3	3

OPEN ELECTIVE-IV

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	19B1WBT732	Food Nutrition & Health Care	3	0	0	3	3
						Total	3	3

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B. TECH (BIOTECHNOLOGY) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2		18B1HS171	English and Technical Communication Lab	0	0	2	1	2
3		18B11MA112	Basic Mathematics -1 OR	3	1	0	4	4
4	Basic Sciences	18B11BT111	Fundamental Biology	3	0	0	3	3
5		18B17BT171	Fundamental Biology lab	0	0	2	1	2
6	Basic Sciences	18B11PH112	Basic Engineering Physics-I	3	1	0	4	4
7	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
8	Engg Science	18B17GE173	Engineering Graphics	0	0	3	1.5	3
9	Basic Sciences	18B17PH172	Basic Engineering Physics Lab-I	0	0	2	1	2
10	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
						Total	17.5	23

B. TECH (BIOTECHNOLOGY) 2nd SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Basic Sciences	18B11MA212	Basic Mathematics-II	3	1	0	4	4
2	Basic Sciences	18B11PH212	Bioinstrumentation Techniques	3	1	0	4	4
3	Engg Science	18B11EC212	Basic Electrical Sciences	3	1	0	4	4
4	Engg Science	18B17EC272	Basic Electrical Sciences lab	0	0	2	1	2
5	Engg Science	18B11CI211	Data Structure & Algorithms	3	1	0	4	4
6	Engg Science	18B17CI271	Data Structure & Algorithms Lab	0	0	4	2	4
7	Engg Science	18BI7GE171	Workshop Practices	0	0	3	1.5	3
						Total	20.5	25

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B. TECH (BIOINFORMATICS) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2	HSS	18B17HS171	English and Technical Communication	0	0	2	1	2
3		18B11MA112	Basic Mathematics -1 OR	3	1	0	4	4
4	Basic Sciences	18B11BT111	Fundamental Biology	3	0	0	3	3
5		18B17BT171	Fundamental Biology lab	0	0	2	1	2
6	Basic Sciences	18B11PH112	Basic Engineering Physics-I	3	1	0	4	4
7	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
8	Engg Science	18B17GE173	Engineering Graphics	0	0	3	1.5	3
9	Basic Sciences	18B17PH172	Basic Engineering Physics Lab-I	0	0	2	1	2
10	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
						Total	17.5	23

B. TECH (BIOINFORMATICS) 2nd SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Basic Sciences	18B11MA212	Basic Mathematics-II	3	1	0	4	4
2	Basic Sciences	18B11PH212	Bioinstrumentation Techniques	3	1	0	4	4
3	Engg Science	18B11EC212	Basic Electrical Sciences	3	1	0	4	4
4	Engg Science	18B17EC272	Basic Electrical Sciences lab	0	0	2	1	2
5	Engg Science	18B11CI211	Data Structure & Algorithms	3	1	0	4	4
6	Engg Science	18B17CI271	Data Structure & Algorithms Lab	0	0	4	2	4
7	Engg Science	18BI7GE171	Workshop Practices	0	0	3	1.5	3
						Total	20.5	25

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B. TECH (BIOINFORMATICS) 3rd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS311	Interpersonal Dynamics Values and Ethics	3	0	0	3	3
2	Basic Sciences	18B11BI311	Cell and Molecular Biology	3	0	0	3	3
3	Engg Science	20B11BI311	Bioinformatics Data Management	3	1	0	4	4
4	Professional Core	18B11BI312	Microbiology & Immune System	3	1	0	4	4
5	Professional Core	18B11BI313	Biological Computation	3	1	0	4	4
6	Engg Science	20b17BI371	Bioinformatics Data Management Lab	0	0	2	1	2
7	Basic Sciences	18B17BI371	Cell and Molecular Biology Lab	0	0	2	1	2
8	Professional Core	18B17BI372	Microbiology & Immune System Lab	0	0	2	1	2
9	Professional Core	18B17BI373	Biological Computation Lab	0	0	2	1	2
10	Professional Core	18B17BI374	Linux Lab	0	0	2	1	2
						Total	23	28

B. TECH (BIOINFORMATICS) 4th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS411	Finance and Accounts	3	0	0	3	3
2	Basic Sciences	18B11MA411	Bio-Statistics	3	0	0	3	3
3	Professional Core	18B11BI412	Genetic Engineering and Genomics	3	0	0	3	3
4	Engg Science	18B11CI415	Object Oriented Programming	3	1	0	4	4
5	Professional Core	18B11BI413	Structural Biology	3	0	0	3	3
6	Professional Core	18B11BI414	Programming Languages for Bioinformatics	3	0	0	3	3
7	Engg Science	18B11CI474	Object Oriented Programming Lab	0	0	2	1	2
8	Basic Sciences	18B11MA412	Bio-Statistics Lab	0	0	2	1	2
9	Professional Core	18B17BI472	Genetic Engineering and Genomics Lab	0	0	2	1	2
10	Professional Core	18B17BI473	Structural Biology Lab	0	0	2	1	2
11	Professional Core	18B17BI474	Programming Languages for Bioinformatics Lab	0	0	2	1	2
12	Mandatory Course	18B11GE411	Environmental Studies	2	0	0	Audit	2
						Total	24	31

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B. TECH (BIOINFORMATICS) 5th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS511	Project Management and Entrepreneurship	3	0	0	3	3
2	Professional Core	18B11BI511	Design and Analysis of Algorithms	3	0	0	3	3
3	Professional Core	18B11BT511	Bioprocess Engineering	3	1	0	4	4
4	Professional Core	18B11BI512	Scripting Languages for Bioinformatics	3	0	0	3	3
5	Professional Core	18B17BI571	Design and Analysis of Algorithms Lab	0	0	2	1	2
6	Professional Core	18B17BT571	Bioprocess Engineering Lab	0	0	2	1	2
7	Professional Core	18B17BI572	Scripting Languages for Bioinformatics Lab	0	0	2	1	2
8	Professional Core	18B17BI573	Structural Bioinformatics Lab	0	0	2	1	2
9	Professional Elective		Departmental Elective-I	3	0	0	3	3
10	Open Elective		Open Elective-I	3	0	0	3	3
11	Project	18B19BI591	Minor Project Part-I	0	0	2	1	2
						Total	24	29

B. TECH (BIOINFORMATICS) 6th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11BI611	Machine Learning for Bioinformatics	3	0	0	3	3
2	Professional Core	18B11BI612	Computer Aided Drug Design	3	0	0	3	3
3	Professional Core	18B17BI671	Machine Learning for Bioinformatics lab	0	0	2	1	2
4	Professional Core	18B17BI672	Computer Aided Drug Design Lab	0	0	2	1	2
5	Professional Core	18B17BI673	Advanced Algorithms for Bioinformatics Lab	0	0	2	1	2
6	Professional Core	18B17BI674	R Language Lab	0	0	2	1	2
7	Professional Elective		Departmental Elective-II	3	0	0	3	3
8	Professional Elective		Departmental Elective-III	3	0	0	3	3
9	Open Elective		Open Elective-II (HSS)	3	0	0	3	3
10	Project	18B19BI691	Minor Project Part-II	0	0	4	2	4
11	Mandatory Course		Industrial Training				Audit	
						Total	21	27

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COURSE CURRICULUM OF BT & BI DEPARTMENT- 2018 batch (160 CREDITS)

B. TECH (BIOINFORMATICS) 7th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professiona l Elective		Departmental Elective- IV	3	0	0	3	3
2	Open Elective		Open Elective - III	3	0	0	3	3
3	Open Elective		Open Elective - IV	3	0	0	3	3
4	Project	18B19BI791	Major Project Part I	0	0	10	5	10
5	HSS		Indian Constitution	1	0	0	Audit	1
						Total	14	20

B. TECH (BIOINFORMATICS) 8th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Departmental Elective- V	3	0	0	3	3
2	Professional Elective		Departmental Elective- VI	3	0	0	3	3
3	Open Elective		Open Elective-V	3	0	0	3	3
4	Project	18B19BI891	Major Project Part II	0	0	14	7	14
						Total	16	23

TOTAL CREDITS				160	
TOTAL HOURS				205	
HSS				12	
Basic Science				25	
Engg Science				28	
Professional CORE				47	
Professional Elective				18	
OE				15	
PROJECT				15	
TOTAL CREDITS				160	
					160

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B. TECH (BIOINFORMATICS)

PROFESSIONAL ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBI531	Structural Bioinformatics	3	0	0	3	3
2	Professional Elective	18B1WBT532	Comparative & Functional Genomics	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBI631	Advanced Algorithms for Bioinformatics	3	0	0	3	3
2	Professional Elective	18B1WBT632	Infectious Diseases	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBI632	Dataware housing and Mining for Bioinformatics	3	0	0	3	3
	Professional Elective	18B1WBT634	Bioenergy & Biofuels	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-IV

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBI731	Computational Systems Biology	3	0	0	3	3
	Professional Elective	18B1WBT734	Intellectual Property Rights & Commercialization	3	0	0	3	3
						Total	3	3

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PROFESSIONAL ELECTIVE-V

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT831	Genetic Counselling	3	0	0	3	3
2	Professional Elective	18B1WBI831	Computational Molecular Evolution	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-VI

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WBT833	Diagnostics & Vaccine Manufacture	3	0	0	3	3
2	Professional Elective	18B1WBI834	NGS Data Analysis & Applications	3	0	0	3	3
						Total	3	3

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B. TECH (COMPUTER SCIENCE AND ENGINEERING) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2	Basic Sciences	18B11MA111	Engineering Mathematics -1	3	1	0	4	4
3	Basic Sciences	18B11PH111	Engineering Physics-I	3	1	0	4	4
4	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
5	Engg Science	18B17GE171	Workshop Practices **OR**	0	0	3	1.5	3
6		18B17GE173	Engineering Graphics	0	0	3		3
7	Basic Sciences	18B17PH171	Engineering Physics Lab-I	0	0	2	1	2
8	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
9	HSS	18B17HS171	English and Technical Communication Lab	0	0	2	1	2
10		18B17GE172	Mandatory Induction Programm	-	-	-	-	-
						Total	17.5	23

B. TECH (COMPUTER SCIENCE AND ENGINEERING) 2nd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Basic Sciences	18B11MA211	Engineering Mathematics -2 (Differential Calculas)	3	1	0	4	4
2	Basic Sciences	18B11PH211	Engineering Physics-II	3	0	0	3	3
3	Basic Sciences	18B11PH271	Engineering Physics Lab - II	0	0	2	1	2
4	Engg Science	18B11EC211	Electrical Sciences	3	1	0	4	4
5	Engg Science	18B17EC271	Electrical Sciences Lab	0	0	2	1	2
6	Engg Science	18B17GE173	Engineering Graphics **OR**	0	0	3	1.5	3
7		18B17GE171	Workshop Practices	0	0	3		3
8	Engg Science	18B11CI211	Data Structures and Algorithms	3	1	0	4	4
9	Engg Science	18B17CI271	Data Structures and Algorithms Lab	0	0	4	2	4
						Total	20.5	26

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B. TECH (COMPUTER SCIENCE AND ENGINEERING) 3rd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI314	Python Programming Essentials	3	0	0	3	3
2	Engg Science	18B11CI311	Object Oriented Systems and Programming	3	0	0	3	3
3	Professional Core	18B11CI313	Database Management systems	3	0	0	3	3
4	Basic Sciences		Mathematics-III (Probability & Statistics)	3	0	0	3	3
5	HSS		Humanities-I (Interpersonal Dynamics, Values and Ethics)	3	0	0	3	3
6	Professional Core	18B17CI374	Python programming Lab	0	0	4	2	4
7	Engg Science	18B17CI371	Object Oriented Systems and rogramming Lab	0	0	4	2	4
8	Professional Core	18B17CI373	Database Management Systems Lab	0	0	4	2	4
9	Engg Science	18B17CI372	IT Workshop (SciLab/MATLAB) Lab	0	0	4	2	4
						Total	23	31

B. TECH (COMPUTER SCIENCE AND ENGINEERING) 4th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI414	Discrete Computational Mathematics	3	0	0	3	3
2	Professional Core	18B11CI413	Modeling and Simulation Techniques	2	0	0	2	2
3	Professional Core	18B11CI411	Operating Systems	3	0	0	3	3
4	Professional Core	18B11CI412	Design & Analysis of Algorithms	3	0	0	3	3
5	Mandatory Course		Environmental Sciences	2	-	-	-	2
6	HSS		Management 1 (Finance & Accounting)	3	0	0	3	3
7	Professional Core	18B17CI473	Data Simulation Lab	0	0	4	2	4
8	Professional Core	18B17CI471	Operating System Lab	0	0	4	2	4
9	Professional Core	18B17CI472	Design and Analysis of Algorithms Lab	0	0	4	2	4
10	Professional Core	18B17CI474	Web Tech Lab	0	0	4	2	4
						Total	22	32

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B. TECH (COMPUTER SCIENCE AND ENGINEERING) 5ᵗʰ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI515	Computer Graphics	3	0	0	3	3
2	Basic Sciences		Science Elective	3	0	0	3	3
3	Professional Core	18B11CI513	Formal Language & Automata Theory	3	0	0	3	3
4	Professional Core	18B11CI514	Computer Organization and Architecture	3	0	0	3	3
5	HSS		Humanities II (Project Management and Entrepreneurship)	3	0	0	3	3
6	Professional Core	18B17CI575	Computer Graphics Lab	0	0	4	2	4
7	Professional Core	18B17CI574	Computer Organization and Architecture Lab	0	0	2	1	2
8	Engg Science	18B1WCI575	Multimedia Lab	0	0	2	1	2
9	Professional Elective		Elective -I	2	0	0	2	2
10	Professional Elective		Elective -I Lab	0	0	2	1	2
						Total	22	27

B. TECH (COMPUTER SCIENCE AND ENGINEERING) 6ᵗʰ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI612	Compiler Design	3	0	0	3	3
2	Professional Core	18B11CI611	Computer Networks	3	0	0	3	3
3	Professional Core	18B17CI672	Compiler Design Lab	0	0	4	2	4
4	Professional Core	18B17CI671	Computer Networks lab	0	0	4	2	4
5	Professional Elective		Elective II	2	0	0	2	2
6	Professional Elective		Elective - II Lab	0	0	2	1	2
7	Professional Elective		Elective III	2	0	0	2	2
8	Professional Elective		Elective - III Lab	0	0	2	1	2
9	Open Elective		Open Elective -I (Humanities)	3	0	0	3	3
10	Project	18B19CI691	Minor Project	0	0	6	3	6
						Total	22	31

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B. TECH (COMPUTER SCIENCE AND ENGINEERING) 7th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Elective IV	2	0	0	2	2
2	Professional Elective		Elective IV Lab	0	0	2	1	2
3	Professional Elective		Elective V	3	0	0	3	3
4	Open Elective		Open Elective II / MOOC Course*	3	0	0	3	3
5	Open Elective		Open Elective III / MOOC Course*	3	1	0	3	3
6	Mandatory Course		Indian Constitution/Essence of Indian Traditional Knowledge	1	-	-	-	1
7	Project	18B19CI791	Major Project - I	0	0	12	6	12
						Total	18	26

B. TECH (COMPUTER SCIENCE AND ENGINEERING) 8th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Elective VI	3	0	0	3	3
2	Open Elective		Open Elective IV / MOOC Course*	3	0	0	3	3
3	Open Elective		Open Elective V / MOOC Course*	3	0	0	3	3
4	Project	18B19CI891	Major Project - II	0	0	12	6	12
						Total	15	21

			TOTAL CREDITS				160	
			TOTAL HOURS				216	
			HSS				12	
			Basic Science				23	
			Engg Science				24.5	
			Professional Core				51	
			Professional Elective				18	
			OE				15	
			PROJECT				15	158.5

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B. TECH (COMPUTER SCIENCE AND ENGINEERING)

ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	Professional Elective	18B1WCI532	Data Compression	2	0	0	2	2
2	Professional Elective	18B1WCI533	Principal of Programming Languages	2	0	0	2	2
3	Professional Elective	18B1WCI534	Java Programming	2	0	0	2	2
4	Professional Elective	18B1WCI531	Information Theory & Coding	2	0	0	2	2
5	Professional Elective	18B1WCI572	Data Compression Lab	0	0	2	1	2
6	Professional Elective	18B1WCI573	Principal of Programming Languages Lab	0	0	2	1	2
7	Professional Elective	18B1WCI574	Java Programming Lab	0	0	2	1	2
8	Professional Elective	18B1WCI571	Information Theory & Coding Lab	0	0	2	1	2
9	Professional Elective	20B1WCI531	Foundation for Data Science and Visualization	2	0	0	2	2
10	Professional Elective	20B1WCI571	Data Science and Visualization Lab	0	0	2	1	2
11	Professional Elective	19B1WCI531	Big Data using Hadoop	2	0	0	2	2
12	Professional Elective	19B1WCI571	Big Data using Hadoop Lab	0	0	2	1	2
13	Professional Elective	19B1WCI532	Image Analysis and Pattern Recognition	2	0	0	2	2
14	Professional Elective	19B1WCI572	Image Analysis and Pattern Recognition Lab	0	0	2	1	2
15	Professional Elective	20B1WCI532	Cloud Computing: Concepts, Technology & Architecture	2	0	0	2	2
16	Professional Elective	20B1WCI572	Cloud Computing: Concepts, Technology & Architecture Lab	0	0	2	1	2
17	Professional Elective	19B1WCI533	Human-Computer Interaction	2	0	0	2	2
18	Professional Elective	19B1WCI573	Human-Computer Interaction Lab	0	0	2	1	2
19	Professional Elective	19B1WCI534	Social Media	2	0	0	2	2
20	Professional Elective	19B1WCI574	Social Media Lab (Node XL)	0	0	2	1	2

ELECTIVE-II

S.No.		Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	Professional Elective	18B1WCI633	Software Testing Fundamentals	2	0	0	2	2
2	Professional Elective	18B1WCI634	Machine Learning	2	0	0	2	2
3	Professional Elective	18B1WCI637	C# and VB.NET	2	0	0	2	2
4	Professional Elective	18B1WCI631	Data Structure and Software Design	2	0	0	2	2
5	Professional Elective	18B1WCI673	Software Testing Fundamentals Lab	0	0	2	1	2
6	Professional Elective	18B1WCI674	Machine Learning Lab	0	0	2	1	2
7	Professional Elective	18B1WCI677	C# and VB.NET Lab	0	0	2	1	2
8	Professional Elective	18B1WCI671	Data Structure and Software Design Lab	0	0	2	1	2
9	Professional Elective	19B1WCI631	Digital Forensics	2	0	0	2	2
10	Professional Elective	19B1WCI671	Digital Forensics lab	0	0	2	1	2
11	Professional Elective	19B1WCI633	Computer Animation	2	0	0	2	2
12	Professional Elective	19B1WCI673	Computer Animation Lab	0	0	2	1	2
13	Professional Elective	19B1WCI634	Computer and Robot Vision	2	0	0	2	2
14	Professional Elective	19B1WCI674	Computer and Robot Vision lab	0	0	2	1	2
15	Professional Elective	19B1WCI636	Computability, Complexity & Algorithms	2	0	0	2	2
16	Professional Elective	19B1WCI676	Computability, Complexity & Algorithms Lab	0	0	2	1	2
17	Professional Elective	19B1WCI638	Statistics and Data Science	2	0	0	2	2
18	Professional Elective	19B1WCI678	Statistics and Data Science Lab	0	0	2	1	2

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ELECTIVE-III

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCI638	Pattern Recognition	2	0	0	2	2
2	Professional Elective	18B1WCI635	Data Mining & Data Warehousing	2	0	0	2	2
3	Professional Elective	18B1WCI632	Parallel and Distributed Algorithms	2	0	0	2	2
4	Professional Elective	18B1WCI636	Digital Image processing	2	0	0	2	2
5	Professional Elective	18B1WCI678	Pattern Recognition Lab	0	0	2	1	2
6	Professional Elective	18B1WCI675	Data Mining & Data Warehousing Lab	0	0	2	1	2
7	Professional Elective	18B1WCI672	Parallel and Distributed Algorithms Lab	0	0	2	1	2
8	Professional Elective	18B1WCI676	Digital Image processing Lab	0	0	2	1	2
9	Professional Elective	19B1WCI632	Information Security	2	0	0	2	2
10	Professional Elective	19B1WCI672	Information Security Lab	0	0	2	1	2
11	Professional Elective	20B1WCI732	From Graph to Knowledge Graph	2	0	0	2	2
12	Professional Elective	20B1WCI772	From Graph to Knowledge Graph Lab	0	0	2	1	2
13	Professional Elective	19B1WCI635	Architecting Distributed Cloud Applications	2	0	0	2	2
14	Professional Elective	19B1WCI675	Architecting Distributed Cloud Applications Lab	0	0	2	1	2
15	Professional Elective	19B1WCI637	Statistics and Exploratory Data Analytics	2	0	0	2	2
16	Professional Elective	19B1WCI677	Statistics and Exploratory Data Analytics Lab	0	0	2	1	2

ELECTIVE-IV

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCI734	Cryptography& network security	2	0	0	2	2
2	Professional Elective	18B1WCI743	Advanced Algorithms	2	0	0	2	2
3	Professional Elective	18B1WCI741	R-Programming	2	0	0	2	2
4	Professional Elective	18B1WCI742	Artificial Intelligence	2	0	0	2	2
5	Professional Elective	18B1WCI774	Cryptography& network security Lab	0	0	2	1	2
6	Professional Elective	18B1WCI773	Advanced Algorithms Lab	0	0	2	1	2
7	Professional Elective	18B1WCI771	R-Programming Lab	0	0	2	1	2
8	Professional Elective	18B1WCI772	Artificial Intelligence Lab	0	0	2	1	2
9	Professional Elective	19B1WCI731	Computational Data Analysis	2	0	0	2	2
10	Professional Elective	19B1WCI771	Computational Data Analysis lab	0	0	2	1	2
11	Professional Elective	19B1WCI732	Game Development and Design	2	0	0	2	2
12	Professional Elective	19B1WCI772	Game Development Lab	0	0	2	1	2

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S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
			ELECTIVE-V					
				L	T	P		
1	Professional Elective	18B1WCI736	Storage Networks	3	0	0	3	3
2	Professional Elective	18B1WCI738	Internet of Things	3	0	0	3	3
3	Professional Elective	18B1WCI735	Mobile Computing	3	0	0	3	3
4	Professional Elective	18B1WCI737	Cloud Computing	3	0	0	3	3
5	Professional Elective	18B1WCI740	Computational Techniques and Algorithms in Engineering	3	0	0	3	3
6	Professional Elective	19B1WCI736	Information Auditing & Risk Management	3	0	0	3	3
7	Professional Elective	19B1WCI737	Optimization Methods in Business Analytics	3	0	0	3	3
8	Professional Elective	18B1WCI840	Computer Vision	3	0	0	3	3
9	Professional Elective	19B1WCI738	Introduction to Deep Learning	3	0	0	3	3

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
			ELECTIVE-VI					
				L	T	P		
1	Professional Elective	18B1WCI843	Data Analytics	3	0	0	3	3
2	Professional Elective	18B1WCI844	BIG DATA	3	0	0	3	3
3	Professional Elective	18B1WCI845	Network Management	3	0	0	3	3
4	Professional Elective	18B1WCI846	Graph Theory	3	0	0	3	3
5	Professional Elective	19B1WCI831	Ethics and Information Technology	3	0	0	3	3
6	Professional Elective	18B1WCI832	Social and Information Network Analysis	3	0	0	3	3
7	Professional Elective	19B1WCI832	Probabilistic Graphical Models	3	0	0	3	3
8	Professional Elective	19B1WCI833	Information Modeling	3	0	0	3	3
9	Professional Elective	19B1WCI834	Information Visualization	3	0	0	3	3
10	Professional Elective	19B1WCI835	Cloud Computing Security	3	0	0	3	3
11	Professional Elective	19B1WCI836	Knowledge-Based AI: Cognitive Systems	3	0	0	3	3
12	Professional Elective	19B1WCI837	Reinforcement Learning	3	0	0	3	3

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COURSE CURRICULUM OF DEPARTMENT CSE&IT - 2018 Batch (160 CREDITS)
LIST OF OPEN ELECTIVES

S. No.	Category Code	Semester	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
OPEN ELECTIVE II (7th Semester)								
1	19B1WCI733	7	Introduction to C++ Programming	2	0	0	2	2
2	19B1WCI734	7	Object-Oriented Technologies using Java	2	0	0	2	2
3	19B1WCI735	7	Software Testing Methodologies	2	0	0	2	2
4	19B1WCI773	7	Introduction to C++ Programming Lab	0	0	2	1	2
5	19B1WCI774	7	Object-Oriented Technologies using Java Lab	0	0	2	1	2
6	19B1WCI775	7	Software Testing Methodologies Lab	0	0	2	1	2
OPEN ELECTIVE III (7th Semester)								
1	13B1WCI731	7	ARM based Embedded System Design	3	0	0	3	3
2	19B1WCI739	7	Software Defined Network	3	0	0	3	3
3	19B1WCI740	7	Introduction to Statistical learning	3	0	0	3	3
OPEN ELECTIVE IV (8th Semester)								
1	19B1WCI838	8	Principles of Distributed Database Systems	3	0	0	3	3
2	19B1WCI839	8	Foundations of Blockchain	3	0	0	3	3
3	19B1WCI840	8	Computational Biology	3	0	0	3	3
OPEN ELECTIVE V (8th Semester)								
1	19B1WCI841	8	Wireless Sensor Networks: Protocols and Applications	3	0	0	3	3
2	19B1WCI842	8	Service Oriented Architecture	3	0	0	3	3
3	19B1WCI843	8	Multimedia Systems and Applications	3	0	0	3	3

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B. TECH (INFORMATION TECHNOLOGY) 1ˢᵗ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2	Basic Sciences	18B11MA111	Engineering Mathematics -1	3	1	0	4	4
3	Basic Sciences	18B11PH111	Engineering Physics-I	3	1	0	4	4
4	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
5	Engg Science	18B17GE171	Workshop Practices **OR**	0	0	3	1.5	3
6		18B17GE173	Engineering Graphics	0	0	3		3
7	Basic Sciences	18B17PH171	Engineering Physics Lab-I	0	0	2	1	2
8	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
9	HSS	18B17HS171	English and Technical Communication Lab	0	0	2	1	2
10		18B17GE172	Mandatory Induction Programm	-	-	-	-	-
						Total	17.5	23

B. TECH (INFORMATION TECHNOLOGY) 2ⁿᵈ SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Basic Sciences	18B11MA211	Engineering Mathematics -2 (Differential Calculas)	3	1	0	4	4
2	Basic Sciences	18B11PH211	Engineering Physics-II	3	0	0	3	3
3	Basic Sciences	18B11PH271	Engineering Physics Lab - II	0	0	2	1	2
4	Engg Science	18B11EC211	Electrical Sciences	3	1	0	4	4
5	Engg Science	18B17EC271	Electrical Sciences Lab	0	0	2	1	2
6	Engg Science	18B17GE173	Engineering Graphics **OR**	0	0	3	1.5	3
7		18B17GE171	Workshop Practices	0	0	3		3
8	Engg Science	18B11CI211	Data Structures and Algorithms	3	1	0	4	4
9	Engg Science	18B17CI271	Data Structures and Algorithms Lab	0	0	4	2	4
						Total	20.5	26

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B. TECH (INFORMATION TECHNOLOGY) 3ʳᵈ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI315	Python Programming with Raspberry Pi	3	0	0	3	3
2	Engg Science	18B11CI311	Object Oriented Systems and Programming	3	0	0	3	3
3	Professional Core	18B11CI313	Database Management systems	3	0	0	3	3
4	Basic Sciences		Mathematics-3 Probability & Statistics)	3	0	0	3	3
5	HSS		Humanities-I (Interpersonal Dynamics, Values and Ethics)	3	0	0	3	3
6	Professional Core	18B17CI375	Python programming with Raspberry Pi Lab	0	0	4	2	4
7	Engg Science	18B17CI371	Object Oriented Systems and Programming Lab	0	0	4	2	4
8	Professional Core	18B17CI373	Database Management Systems Lab	0	0	4	2	4
9	Engg Science	18B17CI372	IT Workshop (SciLab/MATLAB) Lab	0	0	4	2	4
						Total	23	31

B. TECH (INFORMATION TECHNOLOGY) 4ᵗʰ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI414	Discrete Computational Mathematics	3	0	0	3	3
2	Professional Core	18B11CI413	Modeling and Simulation Techniques	2	0	0	2	2
3	Professional Core	18B11CI411	Operating Systems	3	0	0	3	3
4	Professional Core	19B11CI411	Software Engineering Practices	3	0	0	3	3
5	Mandatory Course		Environmental Sciences	2	-	-	-	2
6	HSS		Management 1 (Finance & Accounting)	3	0	0	3	3
7	Professional Core	18B17CI473	Data Simulation Lab	0	0	4	2	4
8	Professional Core	18B17CI471	Operating System Lab	0	0	4	2	4
9	Professional Core	19B17CI471	Software Engineering Practices Lab	0	0	4	2	4
10	Professional Core	18B17CI474	Web Tech Lab	0	0	4	2	4
						Total	22	32

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B. TECH (INFORMATION TECHNOLOGY) 5th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI512	Information Systems	3	0	0	3	3
2	Basic Sciences		Science Elective	3	0	0	3	3
3	Professional Core	18B11CI511	Advanced Java	3	0	0	3	3
4	Professional Core	18B11CI514	Computer Organization and Architecture	3	0	0	3	3
5	HSS		Humanities II (Project Management and Entrepreneurship)	3	0	0	3	3
6	Professional Core	18B17CI572	Information Systems Lab	0	0	2	1	2
7	Professional Core		CO Lab	0	0	2	1	2
8	Professional Core	18B17CI571	Advanced Java Lab	0	0	4	2	4
9	Professional Elective		Elective -I	2	0	0	2	2
10	Professional Elective		Elective -I Lab	0	0	2	1	2
						Total	22	27

B. TECH (INFORMATION TECHNOLOGY) 6th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11CI613	Data Mining	3	0	0	3	3
2	Professional Core	18B11CI611	Computer Networks	3	0	0	3	3
3	Professional Core	18B17CI673	Data Mining Lab	0	0	4	2	4
4	Professional Core	18B17CI671	Computer Networks lab	0	0	4	2	4
5	Professional Elective		Elective II	2	0	0	2	2
6	Professional Elective		Elective - II Lab	0	0	2	1	2
7	Professional Elective		Elective III	2	0	0	2	2
8	Professional Elective		Elective - III Lab	0	0	2	1	2
9	Open Elective		Open Elective -I (Humanities)	3	0	0	3	3
10	Project	18B19CI691	Minor Project	0	0	6	3	6
						Total	22	31

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B. TECH (INFORMATION TECHNOLOGY) 7 th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Elective IV	2	0	0	2	2
2	Professional Elective		Elective IV Lab	0	0	2	1	2
3	Professional Elective		Elective V	3	0	0	3	3
4	Open Elective		Open Elective II / MOOC Course*	3	0	0	3	3
5	Open Elective		Open Elective III / MOOC Course*	3	1	0	3	3
6	Mandatory Course		Indian Constitution /Essence of Indian Traditional Knowledge	1	-	-	-	1
7	Project	18B19CI791	Major Project - I	0	0	12	6	12
						Total	18	26

B. TECH (INFORMATION TECHNOLOGY) 8 th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective		Elective VI	3	0	0	3	3
2	Open Elective		Open Elective IV / MOOC Course*	3	0	0	3	3
3	Open Elective		Open Elective V / MOOC Course*	3	0	0	3	3
4	Project	18B19CI891	Major Project - II	0	0	12	6	12
						Total	15	21
			TOTAL CREDITS				160	
			TOTAL HOURS				216	
			HSS				11	
			Basic Science				22	
			Engg Science				21	
			Professional Core				52	
			Professional Elective				18	
			OE				15	
			PROJECT				15	154

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B. TECH (LIST OF ELECTIVES- INFORMATION TECHNOLOGY)

ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
				Course Hours			**Credit**	**Total Hours**
				L	T	P		
1	Professional Elective	18B1WCI532	Data Compression	2	0	0	2	2
2	Professional Elective	18B1WCI533	Principal of Programming Languages	2	0	0	2	2
3	Professional Elective	20B1WCI733	Computer Graphics and its Applications	2	0	0	2	2
4	Professional Elective	18B1WCI531	Information Theory & Coding	2	0	0	2	2
5	Professional Elective	18B1WCI572	Data Compression Lab	0	0	2	1	2
6	Professional Elective	18B1WCI573	Principal of Programming Languages	0	0	2	1	2
7	Professional Elective	20B17CI773	Computer Graphics and its Applications Lab	0	0	2	1	2
8	Professional Elective	18B1WCI571	Information Theory & Coding Lab	0	0	2	1	2
9	Professional Elective	20B1WCI531	Foundation for Data Science and Visualization	2	0	0	2	2
10	Professional Elective	20B1WCI571	Data Science and Visualization Lab	0	0	2	1	2
11	Professional Elective	19B1WCI531	Big Data using Hadoop	2	0	0	2	2
12	Professional Elective	19B1WCI571	Big Data using Hadoop Lab	0	0	2	1	2
13	Professional Elective	19B1WCI532	Image Analysis and Pattern Recognition	2	0	0	2	2
14	Professional Elective	19B1WCI572	Image Analysis and Pattern Recognition Lab	0	0	2	1	2
15	Professional Elective	20B1WCI532	Cloud Computing: Concepts, Technology & Architecture	2	0	0	2	2
16	Professional Elective	20B1WCI572	Cloud Computing: Concepts, Technology & Architecture Lab	0	0	2	1	2
17	Professional Elective	19B1WCI533	Human-Computer Interaction	2	0	0	2	2
18	Professional Elective	19B1WCI573	Human-Computer Interaction Lab	0	0	2	1	2
19	Professional Elective	19B1WCI534	Social Media	2	0	0	2	2
20	Professional Elective	19B1WCI574	Social Media Lab (Node XL)	0	0	2	1	2

ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
				Course Hours			**Credit**	**Total Hours**
				L	T	P		
1	Professional Elective	18B1WCI633	Software Testing Fundamentals	2	0	0	2	2
2	Professional Elective	18B1WCI634	Machine Learning	2	0	0	2	2
3	Professional Elective	18B1WCI637	C# and VB.NET	2	0	0	2	2
4	Professional Elective	18B1WCI631	Data Structure and Software Design	2	0	0	2	2
5	Professional Elective	18B1WCI673	Software Testing Fundamentals Lab	0	0	2	1	2
6	Professional Elective	18B1WCI674	Machine Learning Lab	0	0	2	1	2
7	Professional Elective	18B1WCI677	C# and VB.NET Lab	0	0	2	1	2
8	Professional Elective	18B1WCI671	Data Structure and Software Design L	0	0	2	1	2
9	Professional Elective	19B1WCI631	Digital Forensics	2	0	0	2	2
10	Professional Elective	19B1WCI671	Digital Forensics lab	0	0	2	1	2
11	Professional Elective	19B1WCI633	Computer Animation	2	0	0	2	2
12	Professional Elective	19B1WCI673	Computer Animation Lab	0	0	2	1	2
13	Professional Elective	19B1WCI634	Computer and Robot Vision	2	0	0	2	2
14	Professional Elective	19B1WCI674	Computer and Robot Vision lab	0	0	2	1	2
15	Professional Elective	19B1WCI636	Computability, Complexity & Algorithms	2	0	0	2	2
16	Professional Elective	19B1WCI676	Computability, Complexity & Algorithms Lab	0	0	2	1	2
17	Professional Elective	19B1WCI638	Statistics and Data Science	2	0	0	2	2
18	Professional Elective	19B1WCI678	Statistics and Data Science Lab	0	0	2	1	2

ELECTIVE-III

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
				Course Hours			**Credit**	**Total Hours**
				L	T	P		

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S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
1	Professional Elective	18B1WCI638	Pattern Recognition	2	0	0	2	2
2	Professional Elective	18B1WCI632	Parallel and Distributed Algorithms	2	0	0	2	2
3	Professional Elective	18B1WCI636	Digital Image processing	2	0	0	2	2
4	Professional Elective	18B1WCI678	Pattern Recognition Lab	0	0	2	1	2
5	Professional Elective	18B1WCI672	Parallel and Distributed Algorithms L	0	0	2	1	2
6	Professional Elective	18B1WCI676	Digital Image Processing Lab	0	0	2	1	2
7	Professional Elective	19B1WCI632	Information Security	2	0	0	2	2
8	Professional Elective	19B1WCI672	Information Security Lab	0	0	2	1	2
9	Professional Elective	20B1WCI732	From Graph to Knowledge Graph	2	0	0	2	2
10	Professional Elective	20B1WCI772	From Graph to Knowledge Graph Lab	0	0	2	1	2
11	Professional Elective	18B1WCI635	Data Mining & Data Warehousing	2	0	0	2	2
12	Professional Elective	18B1WCI675	Data Mining & Data Warehousing Lab	0	0	2	1	2
13	Professional Elective	19B1WCI635	Architecting Distributed Cloud Applications	2	0	0	2	2
14	Professional Elective	19B1WCI675	Architecting Distributed Cloud Applications Lab	0	0	2	1	2
15	Professional Elective	19B1WCI637	Statistics and Exploratory Data Analytics	2	0	0	2	2
16	Professional Elective	19B1WCI677	Statistics and Exploratory Data Analytics Lab	0	0	2	1	2

ELECTIVE-IV

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
1	Professional Elective	18B1WCI734	Cryptography& network security	2	0	0	2	2
2	Professional Elective	18B1WCI733	Advanced Algorithms	2	0	0	2	2
3	Professional Elective	18B1WCI731	R-Programming	2	0	0	2	2
4	Professional Elective	20B1WCI731	Artificial Intelligence	2	0	0	2	2
5	Professional Elective	18B1WCI774	Cryptography& network security Lab	0	0	2	1	2
6	Professional Elective	18B1WCI773	Advanced Algorithms Lab	0	0	2	1	2
7	Professional Elective	18B1WCI771	R-Programming Lab	0	0	2	1	2
8	Professional Elective	20B1WCI771	Artificial Intelligence Lab	0	0	2	1	2
9	Professional Elective	19B1WCI731	Computational Data Analysis	2	0	0	2	2
10	Professional Elective	19B1WCI771	Computational Data Analysis lab	0	0	2	1	2
11	Professional Elective	19B1WCI732	Game Development and Design	2	0	0	2	2
12	Professional Elective	19B1WCI772	Game Development Lab	0	0	2	1	2

ELECTIVE-V

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
1	Professional Elective	18B1WCI736	Storage Networks	3	0	0	3	3
2	Professional Elective	18B1WCI738	Internet of Things	3	0	0	3	3
3	Professional Elective	18B1WCI735	Mobile Computing	3	0	0	3	3
4	Professional Elective	18B1WCI737	Cloud Computing	3	0	0	3	3
5	Professional Elective	18B1WCI739	Formal Languages & Automata	3	0	0	3	3
6	Professional Elective	18B1WCI740	Computational Techniques & Algorithms in Engineering	3	0	0	3	3
7	Professional Elective	19B1WCI736	Information Auditing & Risk Management	3	0	0	3	3
8	Professional Elective	19B1WCI737	Optimization Methods in Business Analytics	3	0	0	3	3
9	Professional Elective	18B1WCI840	Computer Vision	3	0	0	3	3
10	Professional Elective	19B1WCI738	Introduction to Deep Learning	3	0	0	3	3

ELECTIVE-VI

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credit	Total Hours
1	Professional Elective	18B1WCI831	Data Analytics	3	0	0	3	3
2	Professional Elective	18B1WCI832	Big Data	3	0	0	3	3
3	Professional Elective	18B1WCI834	Network Management	3	0	0	3	3
4	Professional Elective	18B1WCI833	Graph Theory	3	0	0	3	3
5	Professional Elective	18B1WCI835	Deep Learning	3	0	0	3	3

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S.No.	Category	Code	Name of the Subject		L	T	P	Credits	Total Hours
6	Professional Elective	19B1WCI831	Ethics and Information Technology		3	0	0	3	3
7	Professional Elective	18B1WCI832	Social and Information Network Analysis		3	0	0	3	3
8	Professional Elective	19B1WCI832	Probabilistic Graphical Models		3	0	0	3	3
9	Professional Elective	19B1WCI833	Information Modeling		3	0	0	3	3
10	Professional Elective	19B1WCI834	Information Visualization		3	0	0	3	3
11	Professional Elective	19B1WCI835	Cloud Computing Security		3	0	0	3	3
12	Professional Elective	19B1WCI836	Knowledge-Based AI: Cognitive Systems		3	0	0	3	3
13	Professional Elective	19B1WCI837	Reinforcement Learning		3	0	0	3	3

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LIST OF OPEN ELECTIVES

S. No.	Category Code	Semester	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
			OPEN ELECTIVE II (7th Semester)					
1	19B1WCI733	7	Introduction to C++ Programming	2	0	0	2	2
2	19B1WCI734	7	Object-Oriented Technologies using Java	2	0	0	2	2
3	19B1WCI735	7	Software Testing Methodologies	2	0	0	2	2
4	19B1WCI773	7	Introduction to C++ Programming Lab	0	0	2	1	2
5	19B1WCI774	7	Object-Oriented Technologies using Java Lab	0	0	2	1	2
6	19B1WCI775	7	Software Testing Methodologies Lab	0	0	2	1	2
			OPEN ELECTIVE III (7th Semester)					
1	13B1WCI731	7	ARM based Embedded System Design	3	0	0	3	3
2	19B1WCI739	7	Software Defined Network	3	0	0	3	3
3	19B1WCI740	7	Introduction to Statistical learning	3	0	0	3	3
			OPEN ELECTIVE IV (8th Semester)					
1	19B1WCI838	8	Principles of Distributed Database Systems	3	0	0	3	3
2	19B1WCI839	8	Foundations of Blockchain	3	0	0	3	3
3	19B1WCI840	8	Computational Biology	3	0	0	3	3
			OPEN ELECTIVE V (8th Semester)					
1	19B1WCI841	8	Wireless Sensor Networks: Protocols and Applications	3	0	0	3	3
2	19B1WCI842	8	Service Oriented Architecture	3	0	0	3	3
3	19B1WCI843	8	Multimedia Systems and Applications	3	0	0	3	3

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B. TECH (CIVIL ENGINEERING) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Humanities & Social Science	18B11HS111	English and Technical Communication	2	0	0	2	2
2	Humanities & Social Science	18B17HS171	English and Technical Communication Lab	0	0	2	1	2
3	Basic Science Courses	18B11MA111	Engineering Mathematics -I	3	1	0	4	4
4	Basic Science Courses	18B11PH111	Engineering Physics-I	3	1	0	4	4
5	Basic Science Courses	18B17PH171	Engineering Physics Lab - I	0	0	2	1	2
6	Engineering Science Course	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
7	Engineering Science Course	19B17CI171	Programming for problem solving Lab-II	0	0	4	2	4
8	Engineering Science Courses	18B17GE173	Engineering Graphics OR	0	0	3	1.5	3
		18B17GE171	Workshop Practice					
9		18B17GE172	Mandatory Induction Program	-	-	-	-	-
				Total			17.5	23

B. TECH (CIVIL ENGINEERING) 2nd SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Engineering Science Courses	18B11EC211	Electrical Science	3	1	0	4	4
2	Engineering Science Courses	18B17CI211	Data Structure & Algorithms	3	1	0	4	4
3	Basic Science Courses	18B11MA211	Engineering Mathematics -II	3	1	0	4	4
4	Basic Science Courses	18B11PH211	Engineering Physics-II	3	0	0	3	3
5	Basic Science Courses	18B17PH271	Engineering Physics Lab -II	0	0	2	1	2
6	Engineering Science Courses	18B17EC271	Electrical Science Lab	0	0	2	1	2
7	Engineering Science Courses	18B17CI271	Data Structure & Algorithms Lab	0	0	4	2	4
8	Engineering Science Courses	18B17GE171	Workshop Practice OR	0	0	3	1.5	3
		18B17GE173	Engineering Graphics					
				Total			20.5	26

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B. TECH (CIVIL ENGINEERING) 3rd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Engineering Science Courses	18B11CE315	Engineering Mechanics	3	0	0	3	3
2	Professional Core Courses	18B17CE373	Concrete Technology Lab	0	0	2	1	2
3	Professional Core Courses	18B11CE313	Building Materials & Construction	3	0	0	3	3
4	Professional Core Courses	18B11CE312	Surveying	3	0	0	3	3
5	Professional Core Courses	18B11CE314	Water Supply Engineering	3	0	0	3	3
6	Professional Core Courses	18B17CE372	Surveying Lab	0	0	2	1	2
7	Basic Science Courses	18B11CE311	Chemistry	3	0	0	3	3
8	Basic Science Courses	18B17CE371	Chemistry Lab	0	0	2	1	2
9	Basic Science Courses	18B11MA311	Numerical Methods	3	0	0	3	3
10	Humanities & Social Science	18B11HS311	Interpersonal Dynamics, Values and Ethics	3	0	0	3	3
				Total			24	27

B. TECH (CIVIL ENGINEERING) 4th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core Courses	18B11CE415	Mechanics of Solids	3	0	0	3	3
2	Engineering Science Courses	18B11CE413	Computer Aided Civil Engineering Drawing	0	0	2	1	2
3	Professional Core Courses	18B11CE412	Fluid Mechanics	3	0	0	3	3
4	Professional Core Courses	18B11CE414	Water Resources Engineering	3	0	0	3	3
5	Professional Core Courses	18B11CE411	Geotechnical Engineering	3	0	0	3	3
6	Professional Core Courses	18B17CE471	Geotechnical Engineering Lab	0	0	2	1	2
7	Professional Core Courses	18B17CE472	Fluid Mechanics Lab	0	0	2	1	2
8	Humanities & Social Science	18B11HS411	Finance and Accounts	3	0	0	3	3
9	Mandatory Courses	18B11GE411	Environmental Studies	2	0	0	0	2
				Total			18	23

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B. TECH (CIVIL ENGINEERING) 5ᵗʰ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core Courses	18B11CE513	Structural Analysis	3	0	0	3	3
2	Professional Core Courses	18B11CE512	Sewage Treatment and Disposal	3	0	0	3	3
3	Professional Elective Courses		Elective -1	3	0	0	3	3
4	Professional Core Courses	18B17CE572	Environmental Engineering Lab	0	0	2	1	2
5	Professional Core Courses	18B11CE515	Design of Concrete Structures	3	1	0	4	4
6	Professional Core Courses	18B11CE511	Highway Engineering	3	0	0	3	3
7	Professional Core Courses	18B17CE571	Highway Engineering Lab	0	0	2	1	2
8	Humanities & Social Science	18B11HS511	Project Management and Entrepreneurship	3	0	0	3	3
9	Professional Core Courses	18B11CE514	Foundation Engineering	3	0	0	3	3
				Total			24	26

B. TECH (CIVIL ENGINEERING) 6ᵗʰ SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core Courses	18B11CE611	Concrete Technology	3	0	0	3	3
2	Professional Elective Courses		Elective -2	3	0	0	3	3
3	Professional Core Courses	18B11CE612	Design of Steel Structures	3	0	0	3	3
4	Professional Elective Courses		Elective -3	3	0	0	3	3
5	Professional Elective Courses		Elective -4	3	0	0	3	3
6	Open Elective		Open Elective 1 (HSS)	3	0	0	3	3
7	Professional Core Courses	18B17CE671	Computer Aided Planning and Costing	0	0	4	2	4
8	Project	18B19CE691	Minor Project	0	0	6	3	6
				Total			23	28

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B. TECH (CIVIL ENGINEERING) 7 th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	Project Hours		
1	Open Elective		Open Elective 2	3	0	0	3	3
2	Open Elective		Open Elective 3	3	0	0	3	3
3	Project	18B19CE791	Major Project-I	0	0	12	6	12
4	Professional Elective Courses		Elective - 5	3	0	0	3	3
5	Professional Elective Courses		Elective - 6	3	0	0	3	3
6	Mandatory Courses	18B11GE111	Indian Constitution (HSS Audit)	1	0	0	0	1
				Total			18	25

B. TECH (CIVIL ENGINEERING) 8 th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	Project Hours		
1	Project	18B19CE891	Major Project-II	0	0	12	6	12
2	Professional Elective Courses		Elective - 7	3	0	0	3	3
3	Open Elective		Open Elective 4	3	0	0	3	3
4	Open Elective		Open Elective 5	3	0	0	3	3
				Total			15	21

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B. TECH (CIVIL ENGINEERING)

ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE531	Construction Technology and Management	3	0	0	3	3
2	Professional Elective	18B1WCE532	Solid Waste Management	3	0	0	3	3
3	Professional Elective	18B1WCE533	Air and Noise Pollution and Control	3	0	0	3	3
						Total	3	3

ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE631	Advanced Structural Analysis	3	0	0	3	3
2	Professional Elective	18B1WCE632	Pavement Analysis and Design	3	0	0	3	3
3	Professional Elective	18B1WCE633	Industrial Waste Treatment	3	0	0	3	3
						Total	3	3

ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE634	Transportation Engineering	3	0	0	3	3
2	Professional Elective	18B1WCE635	Traffic Engineering	3	0	0	3	3
3	Professional Elective	18B1WCE636	Highway Construction, Maintenance and Management	3	0	0	3	3
						Total	3	3

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B. TECH (CIVIL ENGINEERING)

ELECTIVE-IV

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE637	Advanced Concrete Technology	3	0	0	3	3
2	Professional Elective	18B1WCE638	Underground Technology	3	0	0	3	3
3	Professional Elective	18B1WCE639	Open Channel Flow and Hydraulic Machine	3	0	0	3	3
						Total	3	3

ELECTIVE-V

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE731	FEM and its Applications in Civil Engineering	3	0	0	3	3
2	Professional Elective	18B1WCE732	Environmental Management and Impact Assessment	3	0	0	3	3
3	Professional Elective	18B1WCE733	Advanced Foundation Engineering	3	0	0	3	3
						Total	3	3

ELECTIVE-VI

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE734	Earthquake Engineering	0	0	3	3	3
2	Professional Elective	18B1WCE735	Design of Prestressed Concrete Structures	3	0	0	3	3
3	Professional Elective	18B1WCE736	Dam and Reservoir Design	3	0	0	3	3
						Total	3	3

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B. TECH (CIVIL ENGINEERING)

ELECTIVE-VII

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WCE831	Advanced Reinforced Concrete Design	3	0	0	3	3
2	Professional Elective	18B1WCE832	Advanced Highway Material and construction	3	0	0	3	3
3	Professional Elective	18B1WCE833	Hydropower Engineering	3	0	0	3	3
						Total	3	3

OPEN ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WCE640	Optimization Techniques	3	0	0	3	3

OPEN ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WCE737	Finite Element Method	0	0	3	3	3

OPEN ELECTIVE-IV

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WCE738	Financial Management	0	0	3	3	3

OPEN ELECTIVE-V

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WCE834	Sustainable Development	0	0	3	3	3

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S.No.	Group(s)	Credit Distribution
1	Humanities and Social Sciences including Management courses	12
2	Basic Science courses	24
3	Engineering Science courses	22
4	Professional core courses	51
5	Professional Elective courses (from CSE branch)	21
6	Open subjects – Electives (from other technical and /or emerging	15
7	Project work, Seminar and Internship	15
8	Mandatory Courses	0
	Total credits	**160**

S.No.	Semester	Proposed Credits	
1	First	17.5	
2	Second	20.5	
3	Third	24	
4	Fourth	18	
5	Fifth	24	**Credit breakup for B.Tech (CE)**
6	Sixth	23	
7	Seventh	18	
8	Eighth	15	
	Total	160	

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 1st SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS111	English and Technical Communication	2	0	0	2	2
2	HSS	18B17HS171	English and Technical Communication Lab	0	0	2	1	2
3	Basic Sciences	18B11MA111	Engineering Mathematics-I	3	1	0	4	4
4	Basic Sciences	18B11PH111	Engineering Physics-I	3	1	0	4	4
5	Basic Sciences	18B17PH171	Engineering Physics Lab-I	0	0	2	1	2
6	Engg Science	19B11CI111	Programming for Problem Solving-II	2	0	0	2	2
7	Engg Science	18B17GE173	Engineering Graphics **OR**	0	0	3	1.5	3
		18B17GE171	Workshop Practices					
8	Engg Science	19B17CI171	Programming for Problem Solving Lab-II	0	0	4	2	4
9		18B17GE172	Mandatory Induction Program	-	-	-	-	-
							17.5	23

B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 2nd SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Basic Sciences	18B11MA211	Engineering Mathematics-II	3	1	0	4	4
2	Basic Sciences	18B11PH211	Engineering Physics-II	3	0	0	3	3
3	Basic Sciences	18B11PH271	Engineering Physics Lab-II	0	0	2	1	2
4	Engg Science	18B11EC211	Electrical Science	3	1	0	4	4
5	Engg Science	18B17EC271	Electrical Science Lab	0	0	2	1	2
6	Engg Science	18B17GE171	Workshop Practices **OR**	0	0	3	1.5	3
		18B17GE173	Engineering Graphics					
7	Engg Science	18B17CI211	Data Structures and Algorithms	3	1	0	4	4
8	Engg Science	18B17CI271	Data Structures and Algorithms Lab	0	0	4	2	4
							20.5	26

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 3rd SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	HSS	18B11HS311	Interpersonal Dynamics, Values and Ethics	3	0	0	3	3
2	Basic Sciences	18B11MA314	Probability Theory and Random Processes	3	1	0	4	4
3	Engg Science	18B11EC313	Electronic Devices & Circuits	3	1	0	4	4
4	Engg Science	18B17EC373	Electronic Devices & Circuits Lab	0	0	2	1	2
5	Professional Core	18B11EC311	Automatic Control Systems	3	0	0	3	3
6	Professional Core	18B17EC371	Automatic Control Systems Lab	0	0	2	1	2
7	Professional Core	18B11EC312	Digital Electronics & Logic Design	3	1	0	4	4
8	Professional Core	18B17EC372	Digital Electronics & Logic Design Lab	0	0	2	1	2
							21	24

B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 4th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	L	T	P	Credits	Total Hours
1	HSS	18B11HS411	Finance and Accounts	3	0	0	3	3
2	Basic Sciences	18B11MA413	Discrete Mathematics	3	0	0	3	3
3	Engg Science	18B17EC474	Python Lab	0	0	2	1	2
4	Professional Core	18B11EC411	Analog Integrated Circuits	3	0	0	3	3
5	Professional Core	18B17EC471	Analog Integrated Circuits Lab	0	0	2	1	2
6	Professional Core	18B11EC412	Fundamentals of Signals & Systems	3	1	0	4	4
7	Professional Core	18B17EC472	Fundamentals of Signals & Systems Lab	0	0	2	1	2
8	Professional Core	18B11EC413	Modern Analog and Digital Communication	3	1	0	4	4
9	Professional Core	18B17EC473	Modern Analog and Digital Communication Lab	0	0	2	1	2
10			Environmental Studies	2	0	0	0	2
							21	27

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 5th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	HSS	18B11HS511	Project Management and Entrepreneurship	3	0	0	3	3
2	Professional Core	18B11EC511	Principles of Digital Signal Processing	3	1	0	4	4
3	Professional Core	18B17EC571	Principles of Digital Signal Processing Lab	0	0	2	1	2
4	Professional Core	18B11EC512	Microprocessor and Interfacing	3	0	0	3	3
5	Professional Core	18B17EC572	Microprocessor and Interfacing Lab	0	0	2	1	2
6	Professional Core	18B11EC513	Electromagnetic Waves	3	1	0	4	4
7	Engg. Science		Science Elective	3	0	0	3	3
8	Professional Elective		Professional Elective-I	3	0	0	3	3
							22	24

B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 6th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Core	18B11EC611	Wireless and Data Communication	3	0	0	3	3
2	Professional Core	18B11EC612	VLSI Technology	3	1	0	4	4
3	Professional Core	18B11EC671	Mini Project	0	0	2	1	2
4	Professional Core	18B17EC672	VLSI Technology Lab	0	0	2	1	2
5	Professional Core	18B17EC673	Advance Communication Lab	0	0	2	1	2
6	Open Elective		Open Elective-I/MOOCs (**HSS Elective**)	3	0	0	3	3
7	Open Elective		Open Elective-II / MOOCs	3	0	0	3	3
8	Open Elective		Open Elective-III / MOOCs	3	0	0	3	3
9	Professional Elective		Professional Elective-II	3	0	0	3	3
10			Industrial Training				0	0
							22	25

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 7th SEMESTER

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Project	18B19EC791	Project Part-I				7	7
2	HSS		Indian Constitution	1	0	0	0	1
3	Open Elective		Open Elective-IV/ MOOCs	3	0	0	3	3
4	Professional Elective		Professional Elective-III	3	0	0	3	3
5	Professional Elective		Professional Elective-IV	3	0	0	3	3
							16	17

B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING) 8th SEMESTER

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective		Open Elective V/ MOOCs	3	0	0	3	3
2	Professional Elective		Professional Elective-V	3	0	0	3	3
3	Professional Elective		Professional Elective-VI	3	0	0	3	3
4	Professional Elective		Professional Elective-VII	3	0	0	3	3
5	Project	18B19EC891	Project Part-II				8	8
							20	20

TOTAL CREDITS	160
TOTAL HOURS	186
HSS	12
Basic Science	24
Engg. Science	27
Professional Core	46
Professional Elective	21
Open Elective	15
Project	15

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING)

PROFESSIONAL ELECTIVE-I

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC534	Network Analysis and Synthesis	3	0	0	3	3
2	Professional Elective	18B1WEC535	Communication Engineering	3	0	0	3	3
3	Professional Elective	18B1WEC536	Fundamentals of Digital Image Processing	3	0	0	3	3
4	Professional Elective	20B1WEC534	AVR Based Embedded System Design	2	0	0	2	2
5	Professional Elective	20B1WEC571	AVR Based Embedded System Design Lab	0	0	2	1	2

PROFESSIONAL ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC631	Digital Filter Design and Applications	3	0	0	3	3
2	Professional Elective	18B1WEC632	Intelligent Control Systems	3	0	0	3	3
3	Professional Elective	18B1WEC633	Optical Communication Systems	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-III

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC746	Microwave Theory and Techniques	3	0	0	3	3
2	Professional Elective	18B1WEC745	Next Generation Communication Systems	3	0	0	3	3
3	Professional Elective	18B1WEC744	FPGA based Instrumentation System Design	3	0	0	3	3
4	Professional Elective	18B1WEC743	Optimum Array Processing	3	0	0	3	3
						Total	3	3

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING)

PROFESSIONAL ELECTIVE-IV

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC742	Antenna and Wave Propagation	3	0	0	3	3
2	Professional Elective	18B1WEC736	OFDM and Applications	3	0	0	3	3
3	Professional Elective	18B1WEC737	Robotic Systems and Control	3	0	0	3	3
4	Professional Elective	18B1WEC738	Time Frequency Analysis and Applications	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-V

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC852	Design of Modern Antennas	3	0	0	3	3
2	Professional Elective	18B1WEC851	Soft Computing Techniques	3	0	0	3	3
3	Professional Elective	18B1WEC850	Fault Tolerant Communication Systems	3	0	0	3	3
4	Professional Elective	18B1WEC849	Cognitive Radio Networks	3	0	0	3	3
						Total	3	3

PROFESSIONAL ELECTIVE-VI

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC848	RF Engineering	0	0	3	3	3
2	Professional Elective	18B1WEC847	Medical Image Processing	3	0	0	3	3
3	Professional Elective	18B1WEC846	Design of Dependable Systems	3	0	0	3	3
4	Professional Elective	18B1WEC838	Artificial Intelligence Techniques	3	0	0	3	3
						Total	3	3

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING)

PROFESSIONAL ELECTIVE-VII

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Professional Elective	18B1WEC839	Radar Principles and Applications	3	0	0	3	3
2	Professional Elective	18B1WEC840	Industrial Automation and Control	3	0	0	3	3
3	Professional Elective	18B1WEC841	Bio Electronic Sensors	3	0	0	3	3
4	Professional Elective	18B1WEC842	Optical Networks	0	0	3	3	3
						Total	3	3

OPEN ELECTIVE-I (HSS)

OPEN ELECTIVE-II

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WEC635	Principles of Communication Systems	2	0	0	2	2
2	Open Elective	18B1WEC672	Principles of Communication Systems Lab	0	0	2	1	2
3	Open Elective	18B1WEC636	Fundamentals of Digital Signal Processing and Applications	2	0	0	2	2
4	Open Elective	18B1WEC673	Fundamentals of Digital Signal Processing Lab	0	0	2	1	2
5	Open Elective	20B1WEC731	Automation and Robotics	3	0	0	3	3
6	Open Elective	20B1WEC732	Machine Learning for Wireless Communications	3	0	0	3	3
7	Open Elective	20B1WEC733	Signal Processing for Machine Learning	3	0	0	3	3

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B. TECH (ELECTRONICS & COMMUNICATION ENGINEERING)

OPEN ELECTIVE-III

S. No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WEC637	Principles of Wireless Communication	2	0	0	2	2
2	Open Elective	18B1WEC674	Principles of Wireless Communication Lab	0	0	2	1	2
3	Open Elective	18B1WEC639	Software Defined Radio and Applications	2	0	0	2	2
4	Open Elective	18B1WEC676	Software Defined Radio Lab	0	0	2	1	2
5	Open Elective	20B1WEC734	Digital Systems	3	0	0	3	3
6	Open Elective	20B1WEC735	Artificial Intelligence Techniques for Genomic Signal Processing	3	0	0	3	3
7	Open Elective	20B1WEC736	Image Sensing and Reconstruction	3	0	0	3	3

OPEN ELECTIVE-IV

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WEC739	Optimization Techniques in Engineering	3	0	0	3	3
2	Open Elective	18B1WEC740	Electrical Machines	3	0	0	3	3
3	Open Elective	18B1WEC741	Biomedical Signal Processing	3	0	0	3	3
4	Open Elective	20B1WEC731	Automation and Robotics	3	0	0	3	3

OPEN ELECTIVE-V

S.No.	Category Code	Subject Code	Name of the Subjects	Course Hours			Credits	Total Hours
				L	T	P		
1	Open Elective	18B1WEC843	Industrial Internet of Things	3	0	0	3	3
2	Open Elective	18B1WEC844	Wireless Ad Hoc and Sensor Networks	3	0	0	3	3
3	Open Elective	18B1WEC845	Satellite Communication	3	0	0	3	3
						Total	3	3

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 05 SEPTEMBER, 2019

General

Academic Council meeting was held on 05 September, 2019 at 11.00 a.m. in the Board Room, Jaypee University of Information Technology, Waknaghat. The Chairman, Academic Council extended warm welcome to all the members present in the meeting and expressed thanks to Prof. S. C. Saxena for his presence.

Attendance

The following members were present:-

Chairman

Prof. Vinod Kumar   Vice Chancellor, JUIT, Waknaghat

Head of the Other Institution of the Trust

Prof. S. C. Saxena   Vice Chancellor, JIIT, Noida

The Deans of all Faculty of the University

Prof. Samir Dev Gupta   Director, JUIT

Heads of the Departments / Centres of the University

Prof. M. J. Nigam	Head of Deptt. of ECE
Prof. S. P. Ghrera	Head of Deptt. of CSE&IT
Dr. Sudhir Kumar	Head of Deptt. of BT&BI
Prof. Karanjeet Singh	Head of Deptt. of Mathematics
Prof. P. B. Barman	Head of Deptt. of PMS
Dr. Anupriya Kaur	Associate Professor and Head of Deptt. of HSS

Professors other than Heads of Departments

Prof. Sunil Kumar Khah	Deptt. of PMS
Prof. Ashish Kumar	Deptt. of CE

Non-Member Secretary

Maj Gen Rakesh Bassi, SM (Retd.)   Registrar and Dean of Students

Leave of Absence

Leave of absence was granted to the following members by the Chairman, Academic Council:-

Sh. Sunil Sharma	Industry Professional nominated by the Pro-Chancellor
Sh. Vinod Sharma	Industry Professional nominated by the Pro-Chancellor
Prof. Manoj Arora	Vice Chancellor, BML Munjal University, Gurgaon
Prof. A. K. Gupta	Head of Deptt.of CE

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 05 SEPTEMBER, 2019

Item No. 1 **Confirmation of Minutes of last meeting of the Academic Council held on 25 October 2018.**

Minutes of the meeting of the last ACM dated 25th October 2018 were forwarded to the members and no comments were received. The minutes of the last ACM confirmed.

Item No. 2 **Action Taken Report**

Detailed deliberations were made on the Action Taken Report of the last ACM. The action taken on the items resolved in the last ACM were noted by the members.

Chairman informed the members about increase in number of admissions under lateral entry this year due to introduction of 20% additional supernumerary seats under lateral entry for candidates qualified with 3 years Diploma course. He mentioned that students who have not undergone the mandatory courses in their erstwhile Institute for B. Tech First year are being offered such mandatory courses during their B. Tech Second year in addition to their scheduled B. Tech second year curriculum.

Prof. S C Saxena noted the attributes of the New on-line 'Feedback Form' developed for getting the end semester feedback from the students and suggested for developing Google Feedback Form so as to enable the students to submit their feedback on-line through Web.

Item No. 3 **Mapping of Grades of University of Florida at Gainsville, USA with JUIT grading system.**

Members were informed that under student exchange program, University is having MoU with University of Florida at Gainsville, USA. Students selected to undergo their final semester courses at University of Florida at Gainsville are being awarded grades as per their grading system on a 5 point grading scale, which is different with that of 10 point grading system being followed at JUIT. After detailed deliberation, the following proposed equivalence of grades of University of Florida at Gainsville, USA with JUIT grading system were approved by the Council:-

University of Florida and Equivalent Grades at JUIT		
University of Florida Grades		
Passing Grade	Grade Points	JUIT Equivalent Grade
A	4	A+
A-	3.67	A+
B+	3.33	A
B	3	A
B-	2.67	B+
C+	2.33	B+
C	2	B

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C-	1.67	C+
D+	1.33	C+
D	1	C
D-	0.67	D
S	0	F

Item No. 4

Registration Fee for Summer Semester / left over credits taken beyond 8th Semester of study (upto maximum 12 Credits) in B Tech Programme.

The issue of revision of registration fee for Summer Semester and fee for left over credits taken beyond 8th Semester (upto maximum 12 credits) for B Tech students was brought to the notice of the members of the Council. Members agreed to the proposed revised fee for summer semester and fee for left over credits taken beyond 8th semester (upto maximum 12 credits) and approved the fee as under, applicable w.e.f. Academic Session 2019-20:-

Type of Registration	Fee per Project / Theory Course	Fee per Lab Course
Fee for Registration to Summer Semester	Rs. 10000/-	Rs. 7000/-
Fee for Registration of left over credits beyond 8th semester (upto 12 credits)	Rs. 10000/-	Rs. 7000/-
Fee for Registration of left over credits beyond 8th semester (more than 12 credits)	Full Semester Tuition Fee as applicable to their batch of students	

Item No. 5

Amendment in conditions for subjects / courses to be offered for the Summer Semester.

Amendment in conditions for subjects / courses to be offered for the Summer Semester 2020 onwards were deliberated, and after deliberation, the following were resolved for implementation w.e.f. Academic Session 2019-20:-

- The minimum required registration strength of students for subjects / courses for the Summer Semester for common and allied discipline as well as for core discipline will be 10.
- Courses on one to one basis will be allowed for registration in regular odd and even semesters only, and to those students who are left with one / two courses to complete their degree requirements.

Item No. 6

Students failed in Summer Semester Course(s) are not eligible for Supplementary Examination.

- The ACM decided that the students undertaken Summer Semester, and in the event of their failure in a Course(s) can only be allowed to register during the regular semester as and when that Course(s) is available. Such students are not eligible for Supplementary Examination.

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 05 SEPTEMBER, 2019

Item No. 7   **Ph.D Examination Fee.**

The Chairman informed the members about the expenses involved in evaluation of Ph.D Thesis by both the Foreign & Indian Examiners. Further, expenses towards conduct of Viva Voce including expenses towards Lodging, Boarding & travel are large. AICTE has also made provision towards charging of Ph.D Thesis Examination Fee from the Ph.D Scholars for meeting such expenses.

The ACM approved the implementation of Ph.D Examination Fee of Rs. 25000/- with effect from 01 January, 2020. This fee is to be deposited at the time of submission of the Ph.D Thesis.

Item No. 8   **Course Credits Requirement for award of Integrated Degree.**

Course Credits requirement for award of Integrated M. Tech Degree in Biotechnology was considered. After detailed deliberations, following credits were approved for completing the award of Integrated M. Tech degree in Biotechnology:-

- Integrated M. Tech in Biotechnology for 2014-19 admission batch – 255 Credits
- Integrated M. Tech in Biotechnology for 2016-21 admission batch (195 + 76) – 271 Credits
- Integrated M. Tech programme discontinued w.e.f. Academic Session 2016 onwards.

Item No. 9   **Amendment in conditions for Improvement of Grades.**

The item proposed for amendment in conditions for improvement of grades was considered and after deliberations, following amendment in conditions for improvement of grades were approved:-

- Grade improvement be allowed only for the Theory subject(s) during the regular semester provided the subject is on offer and there is no clash in time table.
- The credit registration limit for the purpose of improvement of grade shall be the normal credit limit as in the case of a regular student in a regular semester.
- Grade improvement is only allowed, if CGPA is less than 6.
- Additional Fee of Rs. 10000/- per subject for improvement of grade is to be charged.
- In case grade in the subject taken for improvement improves, the grade obtained after improvement will replace the earlier obtained grade.
- If student secures 'F' grade after the improvement, the minimum grade after grade improvement will be 'D', (Keeping in view that the student has already passed this subject earlier).

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON
05 SEPTEMBER, 2019

Item No. 10   **Inclusion of term "Honours" in Provisional Degree Certificate and Transcript for Bachelor of Technology Programme.**

The item as proposed was unanimously agreed upon and approved. The format of Provisional Degree Certificate and Transcript with honours as given in Annexure – 6 was also approved.

Item No. 11   **To consider and approve the amendments in the sections related to appraisals, assessments and evaluation in the Ph.D Ordinance.**

Item related to amendment in the publication norms under appraisals, assessments and evaluation for Ph.D were placed for consideration of the ACM. After detailed deliberations, the ACM approved the following:-

i) In addition to the other provisions mentioned in the Regulations and Ordinances for submission of the Ph.D Thesis, a Ph.D Scholar must have published atleast four research papers from the thesis work, out of which, three must be in SCI/SCOPUS/SCIE/ Webs of Science indexed journals.

This amendment will be effective for the Ph.D research scholars to be admitted w.e.f. January, 2020 and onward.

ii) In Ph.D Thesis, the work published in research papers having authorship of the Ph.D scholar and his/her supervisor(s) will only be included in the Ph.D thesis. The amendment will be effective from September 2019.

Item No. 12   **Introduction of MOOCs against the Core Courses for students not able to complete the course requirement within 04 years against one / two left over courses.**

The proposed item was deliberated, but members could not reach to a conclusion. The Council agreed to drop the item and continue with the existing regulations of offering MOOCs against the Elective Courses only.

Item No. 13   **Approval of the Meeting of Board of Studies (BoS) of various Departments.**

Academic Council considered the Minutes of Board of Studies (BoS) of various departments and noted the same.

Prof. S C Saxena suggested to the members present in the meeting that Minutes of the BoS should specifically mention new / addition / modification / augmentation in the proposed course / syllabus, if proposed by the BoS of the department.

Item No. 14   **Approval for New Course Structure and detailed syllabus.**

The Academic Council considered and approved the following items:-

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14.1   Computer Science & Engg. and Information Technology Department

14.1.1   i)   Detailed course structure of Minor in Computer Science & Engineering / Information Technology (Annexure – 12).
ii) 10 Proficiency programmes (Annexure – 12).

14.1.2   Courses of the Open Electives II & III for 7th Semester and Open Electives IV & V for 8th Semester (Annexure – 13).

14.2   Electronics and Communication Engineering Department

14.2.1   i)   Detailed course structure of Minor in Electronics and Communication Engineering (Annexure – 14).
ii) 06 Proficiency programmes (Annexure – 14).

14.2.2   Detailed syllabi of five New Professional Electives for 5th / 6th Semester (Annexure – 15).

Detailed syllabus of Applied Artificial Intelligence and Neural Networks be sent to Prof. S C Saxena for analysing the contents of the courses.

14.2.3   New syllabus for Ph.D Course – Reconfigurable Computing for 2019-20 admitted batch (Annexure – 16).
Prof. S C Saxena suggested that the above course be included in the P.G. Programme and be offered to the Ph.D Scholars also.

14.3   Civil Engineering Department

14.3.1   i)   Detailed course structure of Minor in Civil Engineering (Annexure – 17).
ii) 06 Proficiency programmes (Annexure – 17).   Nomenclature of Proficiency in Water Management be changed appropriately as per the contents of the courses offered under the proficiency.

14.4   Biotechnology and Bioinformatics Department

14.4.1   i)   Detailed course structure of Minor in Biotechnology and Minor in Bioinformatics (Annexure – 18).
ii) 02 – 02 each Proficiency programmes of Biotechnology and Bioinformatics (Annexure – 18).

14.4.2   i)   Course Structure and detailed syllabus of M. Sc. Biotechnology (Annexure – 19).
ii) Course Structure and detailed syllabus of M.Sc. Bioinformatics (Annexure – 20).

14.4.3   i)   Detailed syllabus of the Professional Elective – IV (Annexure – 21).
ii) Professional Elective – VI for 2018 batch onwards for B. Tech Biotechnology and B. Tech Bioinformatics (Annexure – 21).

14.5   **Physics and Materials Science Department**

14.5.1   Detailed syllabus of Compulsory Science Electives for 5th Semester for B. Tech CSE, IT and ECE students under New 160 Credit Scheme (**Annexure – 22).**

14.5.2   Detailed syllabus of New Open Electives for 7th and 8th Semester for B. Tech students (**Annexure – 23).**

Item No. 15   **Modification in Existing Course Structure / Detailed Syllabus / Admission Criteria**

The Academic Council considered and approved the following items:-

15.1   **Computer Science & Engg. and Information Technology Department**

15.1.1   Change in Elective Courses for B. Tech Information Technology for 7th and 8th Semester under New 160 Credit Scheme (**Annexure – 24).**

15.2   **Electronics & Communication Engineering Department**

15.2.1   Change in Course Title / Nomenclature of 11 Courses of B. Tech Electronics & Communication Engineering under New 160 Credit Scheme (**Annexure – 25).**

15.3   **Civil Engineering Department**

15.3.1   Change in admission criteria for M. Tech Environmental Engineering.

Department has proposed change in the eligibility criteria for admission to M. Tech. (Environmental Engineering). As of now B. Tech. (Civil Engineering) is only considered for admission to M. Tech. (Environmental Engineering). Department has proposed additional inclusion of B. Tech. (Chemical Engineering) / B. Tech. (Environmental Engineering) for admission in M. Tech. (Environmental Engineering). Prof. S C Saxena suggested that future prospects of the students may also be analyzed, so that they may not face any difficulty in future in getting job having such a combination of their degrees.

15.4   **Biotechnology & Bioinformatics Department**

15.4.1   Minor change in Course Nomenclature and Syllabus of M. Tech Biotechnology (**Annexure – 26).**

Research Methodology (13M11BT115) be changed to Research Methodology and Ethics (18M11BT113) and IPR Biosafety and Bioethics (13M11BT113) be changed to Patenting in Biotechnology (18M11BT114).

15.5   **Physics and Materials Science Department**

15.5.1   Change in nomenclature and code of old scheme Course Biophysical Techniques (10B11PH212) to Course Bioinstrumentation Techniques (18B11PH212) under New 160 Credit Scheme (**Annexure – 27).**

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Item No. 16   **Reporting Items**

Reporting items as mentioned at Agenda item 16.2 to 16.4 and 16.6 & 16.7 were considered and noted by the Academic Council.

Under reporting item 16.1, Prof. S C Saxena suggested that instead of having one DPMC Seminar at DRDO Lab Chandigarh for the Ph.D Scholars of DRDO, they may be facilitated to have Seminar on Web based facility. It will avoid travel of number of DPMC members to DRDO Chandigarh from JUIT, Waknaghat.

Under reporting item 16.5, Prof. S C Saxena suggested amendment in the conditions for allowing M. Tech Fellowship as under:-

<u>For GATE Qualified Candidates</u>: Initially fellowship be provided for one year. Continuation of fellowship to second year be subject to acquiring CGPA ≥ 7.5.

<u>For Non GATE Qualified Candidates</u>: Fellowship be provided during second year subject to acquiring CGPA ≥ 8 in M. Tech First year.

Fellowship be continued for whole second year.
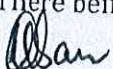
Item No. 17   **Any other Item with the permission of the Chair.**

Prof. S C Saxena suggested for formalizing the Counselling Schedule for the admissions for the Academic Year - 2020-21. Cut Off dates for receiving applications vis a vis Counselling Schedule be notified well in advance in the admission brochure itself.
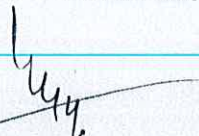
Proforma for offering Departmental Minor and Proficiencies be developed. Students be informed of the same during the Induction programme. Proficiency Coordinators be appointed from each department and proficiency coordinators must inform the students about the proficiencies on offer in their respective departments.

Prof. S C Saxena stressed the importance of the New Education Policy of the Government and requested the members to go through the Education Policy document especially for Higher and Technical Education.

There being no other points, meeting ended with a vote of thanks to the Chair.

Maj Gen Rakesh Bassi, SM (Retd)
Registrar & Non-Member Secretary

Approved

(Prof. Vinod Kumar)
Vice – Chancellor
Chairman

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M. Tech. Biotechnology Course Curriculum (modified 2018 & 2019)

1st SEMESTER

Sr. No.	Code	Subject	L-T-P	Credits
1		Advances in Molecular Cell Biology	3-0-0	3
2		Advances in Molecular Cell Biology Lab	0-0-2	1
3		Research Methodology and Ethics	3-0-0	3
4		Patenting in Biotechnology	3-0-0	3
5		Advanced Bioinformatics	3-0-0	3
6		Advanced Bioinformatics Lab	0-0-2	1
7		High Throughput Technologies	3-0-0	3
8	Elective	DE-1	3-0-0	3
9	Elective	DE-II	3-0-0	3
		Total	**25**	**23**

2nd SEMESTER

Sr. No.	Code	Subject	L-T-P	Credits
1		Industrial Biotechnology	3-0-0	3
2		Industrial Biotechnology Lab	0-0-2	1
3		Immunotechnology	3-0-0	3
4		Immunotechnology Lab	0-0-2	1
5		Bioenterpreunership Management	2-0-0	2
6		Functional Genomics	3-0-0	3
7		Functional Genomics Lab	0-0-2	1
8		Metabolic Engineering	3-0-0	3
9	Elective	DE-III	3-0-0	3
10	Elective	DE-1V	3-0-0	3
		Total	**26**	**23**

3rd SEMESTER

Sr. No.	Code	Subject	L-T-P	Credits
1.		Seminar	0-0-4	2
4.		Project- Thesis Part I		12
		Total	**04**	**14**

4th SEMESTER

Sr. No.	Code	Subject	L-T-P	Credits
1.		Seminar	0-0-4	2
3.		Project- Thesis Part II		14
		Total	**04**	**16**

Total Credit Hours: 76

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M. Tech. Biotechnology Electives courses;

	Code	Credits	Electives in Odd Semester
1		03	Food Processing & Engineering
2			Plant Tissue Culture Technologies
3		03	Advances in Computational System Biology
4		03	Microbial Ecology

	Code	Credits	Electives in Even semester
1		03	Vaccine Production
2		03	QC Analysis and Management
3		03	Clinical Diagnostics
4.		03	Plant Biotechnology
5.		03	Advances in Gene manipulations

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TWO YEAR MTECH PROGRAMME COURSE STRUCTURE
(Effective from Academic Session 2018-19)

CONSTRUCTION MANAGEMENT			
SEMESTER I			
Subject Code	**Subject Title**	**Total Credits**	**Contact Hours**
10M11CE111	Construction Techniques	3	3
10M11CE112	Estimating & Costing	3	3
10M11CE113	Construction Planning and Control	3	3
	Elective I	3	3
10M11CE115	Mechanical and Electrical Systems in Building	3	3
10M19CE191	Construction Capstone Project	2	4
	Total	17	19
SEMESTER II			
10M11CE211	Construction Contracts and Laws	3	3
	Elective II	3	3
10M11CE213	Construction Cost Analysis	3	3
10M11CE214	Construction Financial Management	3	3
10M11CE215	Sustainable Design and Construction	3	3
10M19CE291	Construction Capstone Project	2	4
	Total	17	19
SEMESTER III			
12M19CE391	Seminar	02	-
12M19CE392	Project Part-I	18	36
	Total	20	36
SEMESTER IV			
12M19CE492	Project Part II	22	44
	Total	22	44
LIST OF ELECTIVES			

	Course Code	**Course Name**	
Elective I	10M11CE114	Construction Safety and Health	
	12M1WCE332	Repair and Retrofitting of Structures	
	11M1WCE332	Advances in Construction Materials	
Elective II	10M11CE212	Heavy/Civil Construction Equipment, Methods, and Management	
	10M13CE334	Principles of Affordable Housing	
	10M13CE432	Construction Methods Improvement	

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TWO YEAR MTECH PROGRAMME COURSE STRUCTURE
(Effective from Academic Session 2018-19)

STRUCTURAL ENGINEERING			
SEMESTER I			
Subject Code	**Subject Title**	**Credits**	**Contact Hours**
11M1WCE111	Advanced Structural Analysis	3	3
11M1WCE112	Structural Dynamics	3	3
11M1WCE113	Design of Reinforced Concrete Structures	3	3
	Elective I	3	3
13M1WCE131	Finite Element Methods	3	3
11M1WCE713	Concrete Structures Laboratory	2	4
	Total	**17**	**19**
SEMESTER II			
11M1WCE211	Solid Mechanics in Structural Engineering	3	3
	Elective II	3	3
11M1WCE213	Earthquake Resistant Design of Structures	3	3
11M1WCE214	Theory of Plates and Shells	3	3
12M1WCE231	Prestress Concrete Structures	3	3
12M1WCE271	CAD Laboratory	2	4
	Total	**17**	**19**
SEMESTER III			
12M19CE391	Seminar	02	-
12M19CE392	Project Part-I	18	36
	Total	**20**	**36**
SEMESTER IV			
12M19CE492	Project Part II	22	44
	Total	**22**	**44**
LIST OF ELECTIVES			
	Course Code	**Course Name**	
Elective I	11M1WCE114	Modelling, Simulation and Computer Applications	
	11M1WCE332	Advances in Construction Materials	
	12M1WCE332	Repair and Retrofitting of Structures	
Elective II	11M1WCE212	Design of Steel Structures	
	11M1WCE133	Bridge Engineering	
	10M13CE432	Construction Methods Improvement	

TWO YEAR MTECH PROGRAMME COURSE STRUCTURE
(Effective from Academic Session 2018-19)

ENVIRONMENTAL ENGINEERING			
SEMESTER I			
Course Code	Subject Title	Credits	Contact Hours
14M31CE111	Statistics for Environmental Engineers	03	03
14M31CE113	Water Supply and Treatment	03	03
14M31CE114	EIA and Risk Management	03	03
14M31CE115	Solid Waste Management	03	03
14M31CE116	Wastewater Treatment	03	03
	Elective - I	03	03
14M37CE171	Environmental Engineering Lab	02	04
	Total	20	22
SEMESTER II			
14M31CE211	Air and Noise Pollution Control	03	03
14M31CE112	Simulation and Modelling	03	03
14M31CE213	Industrial Wastewater Treatment	03	03
14M31CE214	Process Design in Environmental Engineering	03	03
	Elective-II	03	03
	Elective-III	03	03
14M37CE276	Software Lab.	02	04
	Total	20	22
SEMESTER III			
15M39CE391	Seminar	02	-
15M39CE392	Project Part - I	18	36
	Total	20	36
SEMESTER IV			
16M39CE492	Project Part - II	20	40
	Total	20	40
LIST OF ELECTIVES			
	Course Code	Course Name	
Electives - I	17M1CE111	Environmental Chemistry and Microbiology	
	16M3WCE331	Environmental Law and Policy	
	17M1CE113	Environmental Health and Safety	
Electives - II	14M31CE215	Surface Water Quality Management	
	14M31CE216	Hazardous Waste Management	
	17M21CE211	Environmental Nanotechnology	
Electives - III	15M3WCE312	Environmental Geotechnique	
	17M21CE212	Environmental Management	
	17M21CE213	Independent Study	

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SN	Sub Code	Subject	C/E	Contact hours				Cr
				L	T	P	Hr	

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Curricula for 2 year MTech Computer Science Engineering
Batch 2018-20 onwards Mtech CSE: I Semester (M1)

SN	Sub Code	Subject	C/E	Contact hours				Cr
				L	T	P	Hr	
1	10M11CI111	Advanced Data Structures	C	3	0	0	3	3
2	10M11CI112	Advanced Computer Networks	C	3	0	0	3	3
3	10M11CI113	Advanced Database Systems	C	3	0	0	3	3
4	10M11CI114	High performance Computer Architecture	C	3	0	0	3	3
5	CS	DE-I	E	3	0	0	3	3
6	CS	DE-II	E	3	0	0	3	3
7	CS	DE-III	E	3	0	0	3	3
8	10M17CI171	Software Systems Lab - I	C	0	0	4	4	2
		TOTAL CREDITS					25	23

Curricula for 2 year MTech Computer Science Engineering
Batch 2017-19 onwards Mtech CSE: II Semester (M2)

SN	Sub Code	Subject	C/E	Contact hours				Cr
				L	T	P	Hr	
1	10M11CI211	Advanced Algorithms	C	3	0	0	3	3
2	10M11CI212	Advanced Operating Systems	C	3	0	0	3	3
3	10M11CI213	Advanced Software Engineering	C	3	0	0	3	3
4	10M11CI214	Multimedia Systems	C	3	0	0	3	3
5	CS	DE-IV	E	3	0	0	3	3
6	CS	DE-V	E	3	0	0	3	3
7	CS	DE-VI	E	3	0	0	3	3
8	10M17CI271	Software Systems Lab - II	C	4	0	2	6	2
		TOTAL CREDITS					27	23

Curricula for 2 year MTech Computer Science Engineering
Batch 2017-19 onwards Mtech CSE: III Semester (M3)

SN	Sub Code	Subject	C/E	Contact hours				Cr
				L	T	P	Hr	
1	10M19CI393	Seminar	C	0	0	4	4	2
2	10M19CI391	Project, Part -I	C	0	0	24	24	12
		TOTAL CREDITS					28	14

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76 credits curricula M Tech CSE

Curricula for 2 year MTech Computer Science Engineering
Batch 2017-19 onwards Mtech CSE: IV Semester (M4)

SN	Sub Code	Subject	C/E	L	T	P	Hr	Cr
				Contact hours				
1	10M19CI493	Project Seminar	C	0	0	4	4	2
2	10M19CI491	Project, Part -II	C	0	0	28	28	14
		TOTAL CREDITS					32	16

List of Electives for DE-I, DE-II, DE-III, DE-IV,DE-V and,DE-VI
To be updated from time to time

SN	Sub Code	Subject
1	10M1WCI131	System and Network Security Techniques
2	14M1WCI333	Natural Language Processing
3	14M1WCI431	Parallel Programming Techniques
4	11M1WCI432	Performance Evaluation of Networks
5	13M1WCI331	Machine Learning
6	15M1WCI331	Advanced Theory of Computation
7	11M1WCI431	Advanced Web Mining
8	15M1WCI431	Advanced AI
9	15M1WCI432	Advanced Computational Techniques in Engineering
10	CS	Algorithmic Graph Theory
11	CS	Analysis of Algorithms
12	CS	Cognitive Sciences
13	CS	Computation Theory and Applications
14	CS	Computer Vision
15	CS	Control Systems Security
16	18M1WCI113	Cyber Warfare & Cyber Crime
17	CS	Embedded System Design
18	CS	Fault Tolerant Computing
19	CS	Grid Computing
20	CS	Incident Response & Event Management
21	CS	Information and Network Security
22	CS	Intelligent Systems
23	CS	Knowledge Discovery
24	CS	Machine Learning
25	CS	Mobile Computing
26	CS	Parallel Computing
27	CS	Pattern Recognition
28	CS	Penetration Testing
29	CS	Performance Evaluation of Computer Networks
30	CS	Quantum Algorithms

76 credits curricula M.Tech CSE

31	CS	Real Time Operating Systems
32	CS	Theory of Programming Languages
33	CS	Threat & Vulnerability Analysis
34	CS	VLSI Algorithms
35	CS	Advanced Wireless and Mobile Communications
36	CS	Digital CMOS design
37	CS	Digital Signal Processors and Applications
38	CS	Information and Coding Theory
39	CS	VLSI Circuit and System Design
40	CS	VLSI Modelling and Simulation
41	CS	VLSI Testing
42	18M1WCl332	Deep Learning

Summary	Cr
Sem1	23
Sem2	23
Sem3	14
Sem4	16
Total	76

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76 credits curricula M Tech CSE

M-Tech in Electronics and Communication Engineering

SEMESTER - I

S. No.	Name of the Subjects	C/E	Course Hours			Total	Credits
			L	T	P		
1	Embedded Systems and Applications	C	3	0	0	3	3
2	Sensor and Smart Instrumentation	C	3	0	0	3	3
3	Object Oriented Programming	C	3	0	0	3	3
4	DEPARTMENTAL ELECTIVE - I	E	3	0	0	3	3
5	DEPARTMENTAL ELECTIVE - II	E	3	0	0	3	3
6	DEPARTMENTAL ELECTIVE - III	E	3	0	0	3	3
7	ADVANCED COMMUNICATION LAB	C	0	0	6	3	3
					Total	21	21

SEMESTER - II

S.No.	Subject Names	C/E	Course Hours			Total	Credits
			L	T	P		
1	Digital System design using verilog HDL	C	3	0	0	3	3
2	Artificial Intelligence and Expert Systems	C	3	0	0	3	3
3	Network Security Protocols	C	3	0	0	3	3
4	DEPARTMENTAL ELECTIVE - IV	E	3	0	0	3	3
5	DEPARTMENTAL ELECTIVE - V	E	3	0	0	3	3
6	OPEN ELECTIVE - VI	E	3	0	0	3	3
7	ADVANCED SIGNAL PROCESSING LAB	C	0	0	6	3	3
					Total	21	21

SEMESTER - III

S. No.	Name of the Subjects	C/E	Course Hours			Total	Credits
			L	T	P		
1	Literature Review / Seminar	C	0	0	6	6	3
2	Dissertation Part - I	C	0	0	28	28	14
					Total	34	17

SEMESTER - IV

S.No.	Subject Names	C/E	Course Hours			Total	Credits
			L	T	P		
1	Seminar	C	0	0	6	6	3
2	Dissertation Part - II	C	0	0	28	28	14
					Total	34	17

LIST OF ELECTIVES FOR MTECH ECE

Elective - I

Advanced Cognitive Radio

Advanced Software Defined Radio

Fault Tolerant Communication Networks

Advanced Next Generation Communication

Elective - II

Advanced Control Systems

Networked Distributed Control

Fundamentals of MIMO Systems

Mobile Adhoc and Sensor Network

Elective - III

Architecture and Algorithms for DSP Systems

Statistical & Adaptive Signal Processing

Statistical Signal Processing

Radar and Sonar Signal Processing

Computational Intelligence and Applications

Elective - IV

Biomedical signal and Image Processing

Advanced Digital Image Processing

CMOS Digital Design Techniques

Real Time Embedded System

VLSI in Biomedical Processing System

Elective - V

Anteena and Radio Wave Propagation

Antenna Theory and Techniques

RF IC Design

Analog IC Design

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 04 JUNE, 2020 THROUGH ONLINE MODE

General

Considering the worldwide COVID-19 pandemic, it was not possible to conduct the physical meeting of the members of the Academic Council. Accordingly meeting of the Academic Council was scheduled through Google Meet. The Chairman, Academic Council extended warm welcome to all the members present in the meeting.

Attendance

The following members were present:-

Chairman

Prof. Vinod Kumar   Vice Chancellor, JUIT, Waknaghat

Head of the Other Institution of the Trust

Prof. S. C. Saxena   Vice Chancellor, JIIT, Noida

Distinguished Academician nominated by the Pro-Chancellor

Prof. Lalit Kumar Awasthi   Director, NIT Jalandhar

Industry Professional nominated by the Pro-Chancellor

Lt Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) Director, Jaiprakash Power Ventures Ltd.

The Dean of all Faculty of the University

Prof. Samir Dev Gupta   Dean (Academics) & Head of Deptt. – CSE/IT, JUIT

Heads of the Departments / Centres of the University

Prof. M. J. Nigam   Head of Deptt. of ECE
Prof. Karanjeet Singh   Head of Deptt. of Mathematics
Prof. P. B. Barman   Head of Deptt. of PMS
Prof. Ashok Kumar Gupta   Head of Deptt. of CE
Prof. Sudhir Kumar   Head of Deptt. of BT&BI
Dr. Anupriya Kaur   Associate Prof and Head of Deptt. of HSS

Professors other than Heads of Departments

Prof. Sunil Kumar Khah   Deptt. of PMS
Prof. Ashish Kumar   Deptt. of CE

Non-Member Secretary

Maj Gen Rakesh Bassi, SM (Retd.)   Registrar and Dean of Students

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Leave of Absence

Leave of absence was granted by the Chairman, Academic Council to the following members:-

Sh. Sunil Sharma	Executive Vice Chairman, JAL
Dr Satish Kumar	Director, NIT, Kurukshetra

Contribution of the Outgoing Members of the Academic Council

Chairman, recognised and expressed gratitude for the contribution made by the outgoing members of the Council.

Outgoing Members: -

Prof. Manoj Arora	Vice Chancellor, BML Munjal University
Late Prof. Padam Kumar	Dean (R&D), JIIT Noida
Sh. Vinod Sharma	Executive President, Jaiprakash Associates Ltd.
Prof S P Ghrera	Former HOD (CSE/IT), JUIT

Induction of New Members

Chairman, Academic Council extended warm welcome to the newly inducted members.

Newly Inducted Members:-

Dr. Satish Kumar Director, NIT Kurukshetra	- Distinguished Academician nominated by the Pro-Chancellor
Prof. Lalit Kumar Awasthi Director, NIT Jalandhar	- Distinguished Academician nominated by the Pro-Chancellor
Lt Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) Director, Jaiprakash Power Ventures Ltd.	- Industry Professional nominated by the Pro-Chancellor

Agenda Items

Item No. 1 **CONFIRMATION OF MINUTES OF LAST MEETING OF THE ACADEMIC COUNCIL HELD ON 05 SEPTEMBER 2019**

Minutes of the meeting of the last ACM held on 5th September 2019 were forwarded to the members and no comments were received. The minutes of the last ACM as per **Annexure – 1** were confirmed.

Item No. 2   **ACTION TAKEN REPORT**

The action taken on the items resolved in the last ACM were noted by the members. (Annexure – 2 to Annexure – 10)

Chairman informed the members about the item 2.10, **Allowing MOOCs against the Core Courses** which was placed before the Academic Council in its last meeting held on 5th September, 2019 but the same was not resolved. Post discussion this is taken up as an Agenda Item for inclusion within this Academic Council Meeting as part of Item No. 12 for consideration and approval.

Prof. S C Saxena advised to consider Introduction of MOOCs for 4/3 credits core courses in the curriculum. He pointed out that JUIT must look into such courses where the syllabus of courses offered by NPTEL, Coursera etc is matching with those in the existing curriculum.

Item No. 3   **APPROVAL FOR EVALUATION SCHEME OF SEMINAR FOR M.Sc PROGRAMS**

Chairman, Academic Council informed the members that presently no provision for evaluation scheme of Seminar for M.Sc Program started during the Academic Session 2019-20 exists in the Regulations and Ordinances. Department of Biotechnology / Bioinformatics has suggested the evaluation scheme of Seminar for M. Sc programs as is being followed for M. Tech programs. After detailed deliberation, evaluation scheme for M.Sc Seminar as per **Annexure – 11** was approved by the Council. Distribution of marks will be as under:-

Day to day work done prior to Midterm	- 20%
Day to day work done after Midterm & upto End term Seminar	- 20%
Midterm Seminar and report	- 20%
End term report "TERM PAPER"	- 20%
End term Seminar	- 20%

Item No. 4   **APPROVAL FOR TWO CREDITS – RESEARCH AND PUBLICATION ETHICS (RPE) MANDATED BY UGC.**

Members were informed about the two credit course for awareness about publication ethics and publication misconducts entitled "Research and Publication Ethics" (RPE) mandated by UGC for all Ph.D students for their course work. The credit requirement for Ph.D course work as specified by the UGC is almost same as being followed at JUIT. Comparison of the course contents was also made and only practical sessions / assignments were missing in JUIT course content, which have been proposed for inclusion. The revised course contents after inclusion of practical session / assignment is appended at **Annexure -12**. The item was considered and approved by the Academic Council.

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Item No. 5

APPROVAL FOR FORMAT OF GRADE-SHEET, TRANSCRIPT, PROVISIONAL DEGREE AND DEGREE PARCHMENT FOR STUDENTS WITH MINOR SPECIALIZATION

Council considered the SOP for offering Minor Specialisation as per **Annexure 13** and format of Grade –Sheet, Transcript, Provisional Degree and Degree Parchment for students with Minor specialization. The formats of the same were discussed and minor change in wording as well as layout was suggested and approved. The amended formats are as per **Annexure 14**.

Prof. Saxena suggested the importance of inter disciplinary Minor specialization offered to the students and stressed that important Core Courses be offered as Minor and flexibility of choosing Courses out of listed Minors be given to the students. However, Proficiency be offered out of the Elective Courses as per the area of interest of the student.

Item No. 6

TO CONSIDER AND RATIFY SEAT INTAKE FOR ADMISSIONS IN ACADEMIC YEAR 2020-21

Chairman, Academic Council informed the members about the proposed seat intake for admissions for 2020-21. Academic Council considered the item and approved the following for Academic Session 2020-21:-

Undergraduate Programs (B. Tech.)

S.No.	Program	Seat Intake (2020-21)
1.	Bioinformatics	30
2.	Biotechnology	30
3.	Civil Engineering	60
4.	Computer Sc. & Engg.	330
5.	Electronics & Comm. Engg.	60
6.	Information Technology	60
	Total	570

Postgraduate Programs (M. Tech.)

S.No.	Program	Seat Intake (2020-21)
1.	Biotechnology	18
2.	Construction Management	18
3.	Environmental Engineering	18
4.	Structural Engineering	18
5.	Computer Sc. & Engg.	18
6.	Computer Sc. & Engg. (Information Security)	18
7.	Electronics & Comm. Engg.	18
	Total	126

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Postgraduate Programs (M. Sc.)

S.No.	Program	Approved Seat Intake (2020-21)
1.	Bioinformatics	30
2.	Biotechnology	30
3.	Statistics	30
4.	Physics	30
	Total	**120**

Doctoral Programs (Ph.D.)

S.No.	Program
1.	Bioinformatics
2.	Biotechnology
3.	Civil Engineering
4.	Computer Sc. & Engg.
5.	Electronics & Comm. Engg.
6.	Humanities and Social Sciences
7.	Mathematics
8.	Physics and Materials Science

Item No. 7 **APPROVAL OF THE MINUTES OF MEETING OF BOARD OF STUDIES (BoS) OF DEPARTMENTS**

Academic Council considered the Minutes of Board of Studies (BoS) of Department of Biotechnology / Bioinformatics held on 17 December 2019 as per **Annexure – 15** and noted the contents.

Item No. 8 **APPROVAL FOR INTRODUCTION OF NEW COURSES / MODIFICATION IN EXISTING COURSE STRUCTURE / DETAILED SYLLABUS**

Department of Biotechnology / Bioinformatics proposed following and the same was considered by the Academic Council and approved as under:-

8.1 Introduction of Elective Courses of M. Sc. Biotechnology

Name of Course	Elective	Semester
Molecular and Clinical Diagnostics	Elective – I	Second
Quality Control and Quality Assurance	Elective – I	Second
Nanobiotechnology: Principles and Applications	Elective – II	Third
Cell Signaling	Elective – II	Third

The detailed syllabus of the above floated Elective Courses are as per **Annexure – 16.**

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8.2 Change in Courses offered to Minor Specialization of B. Tech. Biotechnology

Existing Courses	To be Replaced with
Microbiology	Cell Biology and Cell Culture Technology
Microbiology Lab	Cell Biology Cell Culture Technology Lab
Food and Agriculture Biotechnology	Down Stream Processing

1. Immunology in place of Bioprocess Engineering, if already done.
2. Immunology Lab in place of Bioprocess Engineering Lab, if already done.

The revised Courses to be offered under Minor specialization of B. Tech. Biotechnology are as per **Annexure – 17**.

Prof. Saxena mentioned that Bioprocess Engineering and Bioprocess Engineering Lab seem to be core courses of the program. Hence, before dropping some courses, the course contents of the courses should be examined and taken care of.

8.3 Change in Courses offered to Minor Specialization of B. Tech. Bioinformatics

Existing Courses	To be Replaced with
Biological Computation	Bioinformatics Data Management
Biological Computation Lab	Bioinformatics Data Management Lab

The revised Courses to be offered under Minor specialization of B. Tech. Bioinformatics are as per **Annexure – 18**.

Prof. S C Saxena suggested that nomenclature of the Database Management System be changed since Database Management Systems course is core course of CSE / IT.

Item No. 9 **RATIFICATION OF THE ACADEMIC DECISIONS TAKEN DURING LOCKDOWN DUE TO COVID – 19 PANDEMIC.**

Chairman, Academic Council apprised the members about the academic decisions taken during the lockdown due to COVID – 19 pandemic. The academic decisions taken as per **Annexure – 19 & Annexure – 20** were considered and noted by the members.

Some new initiatives considering the lockdown due to COVID have been taken so that the academic activities of the students are completed in time bound period. Some of them are as under:-

- M/s Mercer Mettl engaged for conduct of on-line exam.
- T3 – Exam of Final year students in on-line mode
- T3 – On-line Exam of final year students to be conducted during 18-20 June 2020.
- Students opting for offline mode T3 Exam to be conducted during 1-13 July

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in Campus.
* Rest all other academic activities of first year, second year and third year students to be completed between 16-30 July, 2020.

Prof. S C Saxena informed the members about the change in Admission Calendar – 2020 due to spread of COVID-19 and uncertainty of the schedule of the admissions for 2020. The Admission Calendar has been designed considering the present situation and guidelines of the regulatory bodies. However, upcoming situation can't be predicted at this stage and decisions may get modified keeping the further situation emerging wrt COVID – 19.

Prof. Saxena requested the Head of Departments to join hands with the Hon'ble Vice Chancellor, JUIT so as to maximise the number of admissions since this is going to be a challenge.

Lt Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) appreciated the initiatives taken during the lockdown and expressed his concern regarding the psychological trauma being faced by students and parents during the COVID-19 pandemic and suggested some counselling sessions for the students and their parents by faculty members.

The Chairman briefed the Council Members regarding efforts made in this regard.

Maj Gen Rakesh Bassi, SM (Retd.) informed the members about the engagement of a Bangalore based 24x7 online professinal psychological counselling firm M/s DOST and engagement of Dr. Shalini Dhadhwal, Professional Psychologist who is taking care of the psychophysical health of the students even during lockdown by sharing the links sent by them with the students. He also shared the psychophysical feedback of the students given by Bangalore based firm with the members. Prof S. C. Saxena stated that the suggestion by Lt Gen R. M. Chadha was relevant and would be implemented in all Universities of Jaypee Group,.

Item No. 10   **DBT TO SPONSOR 10 SEATS UNDER M.Sc (BIOTECHNOLOGY) AT JUIT**

Members were appraised regarding the proposal submitted to DBT -**Annexure – 21** for sponsoring seats in M.Sc. Biotechnology Program.

The Council was apprised that DBT has a restriction of allowing only 10 additional seats in non DBT category if they sponsor 10 seats through DBT. The Chairman informed that JUIT has asked DBT that JUIT will be able to take the 10 DBT sponsored seats with the condition that 20 seats under non DBT category will be allowed since seat intake for the M.Sc Program has already been advertised by JUIT in public domain.

After deliberation Academic Council approved the item in principal.

MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 04 JUNE, 2020 THROUGH ONLINE MODE

Item No. 11   **REPORTING ITEMS**

The following Reporting Items were considered and noted by the Academic Council:-

a) Submission of AQAR 2018-19 to NAAC.

Chairman appraised the members about the submission of AQAR (Annual Quality Assurance Report) for year 2018-19 to NAAC - **Annexure – 22**.

b) Report on Implementation of NAD (National Academic Depository)

Members were appraised the status of uploaded documents (Grade-sheet,, Transcript, Provisional Degree and Final Degree Parchment) on NAD Portal upto 01.06.2020. **Annexure - 23**

Item No. 12   **ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR**

Introduction of MOOCs against the Core Courses.

The item listed in last ACM held on 05 September, 2019 regarding introduction of MOOCs against the Core Courses was not resolved in the last meeting. The item was again placed for reconsideration by the members of the Council. After detailed deliberation, members felt that since regulatory bodies are encouraging on-line courses, JUIT should also consider the same by offering MOOCs / Online Courses against the Core Courses. The item was resolved as under:-

MOOCs / SWAYAM / NPTEL Online Courses will be allowed against the Core Courses with the following conditions:-

1. Credit requirement of the Core Courses should match with the credit requirement of the MOOC / online courses opted by the student.

2. Maximum limit of earning credit through MOOC's / Online Courses shall be 10% of the total credits required for award of degree as per UGC Gazette Notification No. 295 dated 19 July, 2016 – (Credit Framework for Online Learning Courses through SWAYAM) – Regulation - 2016.

There being no other points, meeting ended with a vote of thanks to the Chair.

Maj Gen Rakesh Bassi, SM (Retd)
Registrar & Non-Member Secretary

Approved

Prof. Vinod Kumar
Vice Chancellor
Chairman

Assistant Registrar (Academics)
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M. Sc. Biotechnology Course Curriculum (2019-2020)

I st SEMESTER (MS1)

S.No.	Subject	L-T-P	Credits
1	General Microbiology	3-0-0	3
2	Molecular Genetics and Genomics	3-0-0	3
3	Biochemistry and Intermediary Metabolism	3-0-0	3
4	Research Methodology and Inferential Statistics	3-0-0	3
5	GLP and Bioinstrumentation	3-0-0	3
6	Introduction to IPR	3-0-0	3
7	General Microbiology lab.	0-0-2	1
8	Molecular Genetics and Genomics lab	0-0-2	1
9	Biochemistry and Intermediary Metabolism lab.	0-0-2	1
	Total	24	21

II nd SEMESTER (MS2)

S.No.	Subject	L-T-P	Credits
1	Immunology and Immunotechnology	3-0-0	3
2	Bioprocess Technology	3-0-0	3
3	Plant and Animal Biotechnology	3-0-0	3
4	Basic Bioinformatics	2-0-0	2
5	Elective-I	3-0-0	3
6	Immunology and Immunotechnology lab.	0-0-2	1
7	Bioprocess Technology lab.	0-0-2	1
8	Plant and Animal Biotechnology lab	0-0-2	1
9	Environmental Biotechnology	3-0-0	3
10	Basic Bioinformatics lab.	0-0-2	1
11	Masters Research review seminar	0-0-2	1
	Total	**27**	**22**

III rd SEMESTER (MS3)

S.No.	Subject	L-T-P	Credits
1	Food Biotechnology	3-0-0	3
2	Enzymology and Enzyme Technology	3-0-0	3
3	Recombinant DNA Technology	3-0-0	3
4	Elective-II	3-0-0	3
5	Food Biotechnology lab.	0-0-2	1
6	Enzymology and Enzyme Technology Lab	0-0-2	1
7	Recombinant DNA Technology Lab.	0-0-2	1
8	Master's Research Thesis Part-I	0-0-8	4
	Total	**26**	**19**

IV th SEMESTER (MS4)

S. No.	Subject	L-T-P	Credits
1	Master's Research Thesis Part-II	0-0-26	13
	Total	**26**	**13**

Total Credit Hours: 75

Electives: Elective courses would be offered from the exiting approved elective courses of the Department

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M.Sc. Biotechnology (Effective w.e.f. Academic Session-2020-21)

S.No.	Title	Credits	L-T-P
	SEMESTER ONE		
1	Biochemistry (20MS1BT111)	3	3-0-0
2	Cell and Molecular Biology (20MS1BT112)	3	3-0-0
3	Plant and Animal Biotechnology (20MS1BT113)	2	2-0-0
4	Microbiology (20MS1BT114)	2	2-0-0
5	Genetics (20MS1BT115)	2	2-0-0
6	Basics of Mathematics and Statistics (20MS1MA111)	2	2-0-0
7	Basics of Chemistry and Physics (20MS1PH111)	2	2-0-0
8	Laboratory I: Biochemistry and Analytical Techniques (20MS7BT171)	4	0-0-8
9	Laboratory II: Microbiology (20MS7BT173)	2	0-0-4
10	Laboratory III: Plant and Animal Biotechnology (20MS7BT172)	2	0-0-8
	TOTAL	**24**	
	SEMESTER TWO		
1	Genetic Engineering (20MS1BT211)	3	3-0-0
2	Immunology (20MS1BT212)	3	3-0-0
3	Bioinformatics (20MS1BT213)	2	2-0-0
4	Genomics and Proteomics (20MS1BT214)	2	2-0-0
5	Molecular Diagnostics (20MS1BT215)	2	2-0-0
6	Research Methodology and Scientific Communication Skills (20MS1BT216)	2	2-0-0
7	Elective I Nanobiotechnology (20MSWBT231) Environmental Biotechnology (20MSWBT232) Protein Engineering (20MSWBT233)	2	2-0-0
8	Seminar (20MS9BT211)	1	-
9	Laboratory IV: Molecular Biology and Genetic Engineering (20MS7BT271)	4	0-0-8
10	Laboratory V: Immunology (20MS7BT272)	3	0-0-6
	TOTAL	**24**	
	SEMESTER THREE		
1	Bioprocess Engineering and Technology (20MS1BT311)	3	3-0-0
2	Emerging Technologies (20MS1BT312)	2	2-0-0
3	Critical Analysis of Classical Papers (20MS9BT312)	2	-
4	Bioentrepreneurship (20MS1BT314)	2	2-0-0
5	Intellectual Property Rights, Biosafety and Bioethics (20MS1BT315)	2	2-0-0
6	Project Proposal Preparation and Presentation (20MS9BT313)	2	-
7	Seminar (20MS9BT311)	1	-
8	Laboratory VI: Bioprocess Engineering and Technology (20MS7BT371)	4	0-0-8
9	Laboratory VII: Bioinformatics (20MS7BT372)	2	0-0-4
10	Dissertation (20MS9BT391)	4	-
	TOTAL	**24**	
	SEMESTER FOUR		
1	Dissertation (20MS9BT491)	20	-
2	Elective II Vaccines (20MSWBT431) Drug Discovery and Development (20MSWBT432) Computational Systems Biology (20MSWBT433)	2	2-0-0
	TOTAL	**22**	
	TOTAL CREDITS	**94**	

Approved in Academic Council Meeting held on August 06, 2020

Recommended Electives:

Elective – I (II Semester)	L-T-P	Elective – II (IV Semester)	L-T-P
Nanobiotechnology (20MSWBT231)	- 2-0-0	Vaccines (20MSWBT431)	- 2-0-0
Environmental Biotechnology (20MSWBT232)	- 2-0-0	Drug Discovery and Development (20MSWBT432)	- 2-0-0
Protein Engineering (20MSWBT233)	- 2-0-0	Computational Systems Biology (20MSWBT433)	- 2-0-0

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Approved in Academic Council Meeting held on August 06, 2020

MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 29 DECEMBER, 2020 THROUGH ONLINE MODE

General

Academic Council meeting of Jaypee University of Information Technology, Waknaghat was held on 29 December, 2020 at 11.30 a.m. in online mode through Google Meet. The Chairman, Academic Council extended warm welcome to all the members present in the meeting and expressed thanks to Sh Sunil Sharma Ji, Prof. S. C. Saxena, Prof. Lalit Kumar Awasthi and Lt. Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) for their presence. The detailed agenda of the meeting was presented for deliberation and decision of the Academic Council.

Attendance

The following members were present:-

Chairman

Prof. Vinod Kumar   Vice Chancellor, JUIT, Waknaghat

Head of the Other Institution of the Trust

Prof. S. C. Saxena   Vice Chancellor, JIIT, Noida

Distinguished Academician nominated by the Pro-Chancellor

Prof. Lalit Kumar Awasthi   Director, NIT Jalandhar

Industry Professional nominated by the Pro-Chancellor

Sh. Sunil Sharma,   Executive Vice Chairman, Jaiprakash Associates Ltd.
Lt Gen Ravindra Mohan Chadha,   Director, Jaiprakash Power Ventures Ltd.
PVSM, AVSM (Retd.)

The Dean of all Faculty of the University

Prof. Samir Dev Gupta   Dean (Academics) & Head of Deptt. – CSE/IT

Heads of the Departments / Centres of the University

Prof. Karanjeet Singh   HoD Mathematics
Prof. P. B. Barman   HoD PMS
Prof. Ashok Kumar Gupta   HoD CE
Prof. Sudhir Kumar   HoD BT&BI
Dr. Rajiv Kumar   HoD ECE
Dr. Anupriya Kaur   HoD HSS

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 29 DECEMBER, 2020 THROUGH ONLINE MODE

Professors other than Heads of Departments

Prof. Sunil Kumar Khah   Deptt. of PMS
Prof. Ashish Kumar   Deptt. of CE

Non-Member Secretary

Maj Gen Rakesh Bassi, SM (Retd.)   Registrar and Dean of Students

Leave of Absence

Leave of absence was granted by the Chairman to the following member:-

Dr. Satish Kumar   Director, NIT Kurukshetra

Agenda Items

ITEM NO. 1   **CONFIRMATION OF MINUTES OF LAST MEETINGS OF THE ACADEMIC COUNCIL**

Minutes of the meeting of the last ACM held on 04 June 2020 and 06 August 2020 were forwarded to the members and no comments were received. The minutes of the last ACM as per **Annexure – 1** and **Annexure – 2** were confirmed.

ITEM NO. 2   **ACTION TAKEN REPORT**

The action taken on the items resolved in the last ACM dated 04 June 2020 and 06 August 2020 were noted by the members. **(Annexure – 3 and Annexure – 4)**

ITEM NO. 3   **APPROVAL FOR INTRODUCTION OF NEW COURSES / MODIFICATION IN EXISTING COURSE STRUCTURE / DETEAILED SYLLABUS**

    3.1   **DEPARTMENT OF BIOTECHNOLOGY & BIOINFORMATICS**

       3.1.1   **Introduction of Elective – I and Elective – II for M.Sc (Biotechnology) Program for 2020 onward batches.**

Chairman, Academic Council informed that Department of Biotechnology & Bioinformatics through its BoS held on 05.12.2020 had recommended inclusion of Elective Courses for M.Sc (Biotechnology) program for batches admitted 2020 onward as Elective – I and Elective – II. After detailed deliberation, the following Elective Courses were approved by the Academic Council:-

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Name of Course	Elective Basket	Semester	Credits
Nanobiotechnology – MII	Elective–I	Second	02
Environmental Biotechnology – MII	Elective–I	Second	02
Protein Engineering MII	Elective–I	Second	02
Vaccines MIV	Elective-II	Fourth	02
Drug Discovery and Development MIV	Elective–II	Fourth	02
Computational Systems Biology MIV	Elective–II	Fourth	02

Students have to opt for One Elective out of three courses given above during second and fourth semester.

3.1.2 **Change in nomenclature of two Courses of M.Sc (Biotechnology).**

Members were informed that Department of Biotechnology & Bioinformatics through its BoS held on 05.12.2020 has proposed for changes in nomenclature of two Courses of M.Sc (Biotechnology) Program. After detailed deliberation, the following changes in the nomenclature of the courses M.Sc (Biotechnology) 1st Semester and 3rd Semester were approved by the Academic Council:-

M.Sc 1st Semester

Existing Nomenclature	Approved change in Nomenclature
Laboratory II: General Microbiology-MI	- Laboratory II: Microbiology-MI

M.Sc 3rd Semester

Existing Nomenclature	Approved change in Nomenclature
Bioprocess Technology and Engineering -MIII	- Bioprocess Engineering and Technology-MIII

3.1.3 **M.Tech (Biotechnology) with specialization in Industrial Biotechnology and Medical Biotechnology**

Chairman, Academic Council informed the members that Department is running M.Tech (Biotechnology) program. Since last 3 – 4 years there are inadequate numbers of admissions viz-a-viz sanctioned intake of the PG program. This is adversely affecting NIRF ranking of the University.

Considering the above facts, Department has proposed through its BoS held on 05.12.2020 for offering M.Tech (Biotechology) program with two more specializations i.e. Industrial Biotechnology and Medical Biotechnology from the Academic Session 2021-22 so as to make the programs more demanding. However, the sanctioned intake of the program will remain unchanged i.e. 18 seats including newly proposed two specializations.

Students desirous of pursuing specialization will be required to:-

- Select 3rd & 4th Semester Seminar topics from the area of specialization.
- Select 3rd & 4th Semester Project Thesis Part I and Project Thesis Part II from the area of specialization.
- Opt for at least two Elective Courses in the area of specialisation as per given specialization:-

Specialisation	Code	Credits	Course
Industrial Biotechnology	20M1WBT131	03	Food Processing & Engineering (1st Sem)
	20M1WBT132	03	Plant Tissue Culture Technologies (1st Sem)
	20M1WBT231	03	QC Analysis and Management (2nd Sem)
	20M1WBT232	03	Industrial Enzyme Technology (2nd Sem)
Medical Biotechnology	20M1WBT133	03	Vaccine Production (1st Sem.)
	20M1WBT134	03	Advances in Gene Manipulations (1st Sem.)
	20M1WBT233	03	Cancer Biology (2nd Sem.)
	20M1WBT234	03	Clinical Diagnostics (2nd Sem.)

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Prof. S. C. Saxena suggested for inclusion of internship provisions in the PG program as it will open the placement opportunities for the PG students.

Members considered the recommendations of the BoS of the Department and approved the same.

3.1.4 Introduction of new Post Graduate Program M.Sc (Microbiology) in place of existing M.Sc (Bioinformatics) Program

M.Sc Programs in four disciplines i.e. M.Sc (Biotechnology), M.Sc (Bioinformatics), M.Sc (Physics) and M.Sc (Statistics) were introduced in the Academic Session 2018-19. Since introduction of M.Sc Programs, only M.Sc (Biotechnology) program is attracting reasonable number of admissions and there is no admission to other three M.Sc programs since its inception.

Considering the fact, Department of Biotechnology & Bioinformatics through its BoS held on 05.12.2020 recommended for introduction of M.Sc (Microbiology) Program with a sanctioned intake of 30 seats from Academic Session 2021-22 in place of existing M.Sc (Bioinformatics) program. The course structure of M.Sc (Microbiology) is as given in **Annexure – 5**.

Academic Council considered the recommendations and approved introduction of M.Sc (Microbiology) in place of M.Sc (Bioinformatics) from Academic Session 2021-22 with sanctioned intake of 30 seats to the program.

3.2 DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING / INFORMATION TECHNOLOGY

3.2.1 Introduction of one more specialization in M.Tech (Computer Science & Engineering) with specialization in Data Science.

Department of Computer Sc. & Engineering & Information Technology is running M.Tech (Computer Sc. & Engg.) and M.Tech (Computer Sc. & Engg.) with specialization in (Information Security) with a sanctioned intake of 18 seats in each program. During last 3 years there are inadequate number of admissions to the M.Tech (CSE) program and no admissions to M.Tech (CSE) (IS) program.

Considering the number of admissions to the program, Department has proposed for introduction of one more specialization in M.Tech (Computer Sc. & Engg) with specialization in Data Science from the Academic Session 2021-22.

Academic Council considered the proposal of the Department and in principle approved introduction of one more specialization in M.Tech (Computer Sc. & Engg) with specialization in Data Science. However, the sanctioned intake of M.Tech (Computer Sc. & Engg.) Program including two specializations i.e. (Information

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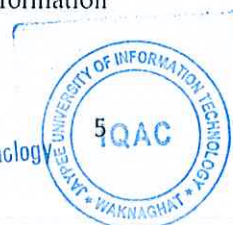
Security) and (Data Science) shall remain as 18 seats only.

Since the item was not moved / recommended through the BoS of the Department, the same has to be moved / recommended through the Departmental BoS alongwith detailed Course Structure and Syllabi of the newly proposed M.Tech (CSE) with specialization in Data Science.

Prof. Lalit Kumar Awasthi, Director – NIT Jalandhar suggested introduction of specialization in Artificial Intelligence considering the scope of the program. Chairman, Academic Council informed the members that Department has already proposed for One Year Certificate Course in Artificial Intelligence and Machine Learning.

3.2.2 Introduction of One Year Certificate Course in Artificial Intelligence and Machine Learning.

Chairman, Academic Council informed the members about the letter received from Chairman, HPPERC (D.O. Letter No. HP-PERC11806 dated 05 October, 2020) wherein he has requested for initiating Skill Development Courses in the University for building additional capabilities of Diploma, UG & PG students so as to match with the industry needs.

Considering the request, Departments of Civil Engg., Biotechnology & Bioinformatics, Computer Sc. & Engg and Information Technology and Humanities & Social Sciences have offered various Skill Development Certificate Courses of different durations.

In Principle approval of the Academic Council was sought for introduction of such skill development certificate courses.

Prof. S. C. Saxena observed that the item had not been moved through the BoS of the Department and Entry level qualification, course contents, duration of the course etc. had yet to be worked out. He suggested the detailed proposal be submitted for approval by the Academic Council. Academic Council in principle approved the item.

Prof. Lalit Kumar Awasthi, Director – NIT Jalandhar suggested introduction of PG Diploma with certain specific credits and certificate alongwith credits earned for each course / component.

Academic Council considered the suggestion and directed to come up with detailed proposal in next Academic Council meeting.

3.2.3 **Approval for Course Structure of Open Electives for B.Tech (Computer Sc. & Engineering) & B.Tech (Information Technology) Programs.**

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for approval of the Course Structure of Open Electives for students of other than CSE & IT.

Academic Council considered the recommendation of the Departmental BoS and approved the Course Structure of Open Electives as given in **Annexure – 6.**

3.2.4 **Approval for detailed syllabus of Open Electives for B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology) Program.**

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for approval of the detailed syllabus of Open Electives for students of other than CSE & IT.

Academic Council considered the recommendation of the Departmental BoS and approved the detailed syllabus of Open Electives as given in **Annexure – 7.**

3.2.5 **Approval for detailed syllabus of Proficiency Courses of B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology) Programs.**

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for approval of the detailed syllabus of Proficiency Courses of B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology).

Academic Council considered the recommendation of the Departmental BoS and approved the detailed syllabus of Proficiency Courses of B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology) as given in **Annexure – 8.**

3.2.6 **Approval for change in detailed syllabus of Multimedia Development Lab – II. for B.Tech (CSE & IT)**

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for change in detailed syllabus of Multimedia Development Lab-II for B.Tech (CSE & IT).

Academic Council considered the recommendation of the Departmental BoS and approved the change in detailed syllabus of Multimedia Development Lab-II is as given in **Annexure – 9.**

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3.2.7 Approval for change in the nomenclature of the Elective-I Courses of B.Tech (Information Technology)

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for change in the nomenclature of the Elective – I Courses of B.Tech (Information Technology).

Academic Council considered the recommendation of the Departmental BoS and approved the change in the nomenclature of the Elective-I Courses of B.Tech (Information Technology) as under:-

Existing Nomenclature		Approved change in nomenclature
Computer Graphics	-	Computer Graphics and its Applications (20B1WCI733)
Computer Graphics Lab	-	Computer Graphics and its Applications Lab (20B17CI773)

The detailed syllabus of the courses with changed nomenclature is given in **Annexure – 10.**

3.2.8 Approval for change in the title of the Project of B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology) program for batches 2018 onwards.

Department of Computer Sc. & Engineering and Information Technology through its BoS held on 15.12.2020 has recommended for change in the title of the Project of B.Tech (Computer Sc. & Engg.) and B.Tech (Information Technology) programs for batches 2018 onwards.

Academic Council considered the recommendation of the Departmental BoS and approved the change in the title of the Project of B.Tech (CSE) and B.Tech (IT). The approved changes are as under:-

6th Semester Project – I to be stated as Minor Project
7th Semester Project – II to be stated as Major Project – I
8th Semester Project – III to be stated as Major Project – II

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3.3 **DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

3.3.1 **Introduction of New Undergraduate Program B.Tech in Electronics and Computer Engineering with an intake of 60 seats.**

Department is running B.Tech (Electronics & Comm. Engg.) program which is not attracting sufficient number of admissions to the program and continuous downfall in number of admissions to the program is observed since last 3 to 4 years. Earlier the sanctioned intake of the program was 120 and considering the shortfall in the number of admissions to the program the sanctioned intake was reduced to 60 seats. This year also admitted strength was only 20 students against 60 sanctioned seats to the program.

Considering the above facts, the Department through its BoS held on 12.12.2020 recommended for introduction of B.Tech in Electronics & Computer Engineering with an intake of 60 seats to the program from the Academic Session – 2021-22.

Academic Council considered the recommendation of the Departmental BoS and approved introduction of new undergraduate program B.Tech in Electronics and Computer Engineering with sanctioned intake of 60 seats to the program in addition to existing B.Tech (Electronics & Comm. Engg.) from the Academic Session 2021-22. The detailed Course Structure of the program is as given in **Annexure – 11.**

Prof. S. C. Saxena suggested teaching of CSE related basic courses by involvement of existing faculty of ECE department having expertise of the subject. Faculty for newly introduced UG courses should be worked out and recruitment be done considering the course content of the UG program.

3.3.2 **Approval for changes in the Course Structure of M.Tech (Electronics & Communication Engg.) Program.**

Department of Electronics and Communication Engineering through its BoS held on 12.12.2020 has recommended for change in the Course Structure of M.Tech (Electronics & Comm. Engg.) program for the Academic Session – 2021-22.

Academic Council considered the recommendation of the Departmental BoS and approved the change in the Course Structure of M.Tech (Electronics & Comm.Engg.) program from the Academic Session – 2021-22. The approved Course Structure of the Program is as given in **Annexure – 12.**

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3.3.3 **Introduction of M.Tech (Electronics & Comm. Engg.) with specialisation in Internet of Things (IoT) in the existing M.Tech Program in Electronics & Comm. Engg.**

Department of Electronics & Communication Engineering is running M.Tech (Electronics & Comm. Engg.) Program with a sanctioned intake of 18 seats. M.Tech in (Electronics & Comm. Engg.) is not attracting admissions to the program since last four academic sessions i.e. from 2017-18 onwards.

The Department through its BoS held on 12.12.2020 recommended introduction of M.Tech (Electronics & Comm. Engg.) with specialization in Internet of Things (IoT) from the Academic Session 2021-22.

Academic Council considered the recommendations of Departmental BoS and approved introduction of M.Tech (Electronics & Comm. Engg.) with specialization in Internet of Things (IoT) from the Academic Session 2021-22. However, the sanctioned intake of M.Tech (Electronics & Comm. Engg.) Program including specialization i.e. (Internet of Things) shall remain 18 seats only. The detailed Course Structure of M.Tech (Electronics & Comm. Engg.) with specialization in Internet of Things is given in **Annexure – 13**.

3.3.4 **Approval of detailed syllabi of Proficiency Courses of B.Tech (Electronics & Comm. Engg.) Program.**

Department of Electronics and Communication Engineering through its BoS held on 12.12.2020 has recommended for approval of detailed syllabi of Proficiency Courses of B.Tech (Electronics & Comm. Engg.) Program.

Academic Council considered the recommendation of the Departmental BoS and approved the detailed syllabi of Proficiency Courses of B.Tech (Electronics & Comm. Engg.) Program. The approved detailed syllabus of Proficiency Courses is given in **Annexure – 14**.

3.3.5 **Approval for new Courses and Syllabus for PG Program.**

Department of Electronics and Communication Engineering through its BoS held on 12.12.2020 has recommended for approval of new courses and syllabus for PG program.

Academic Council considered the recommendation of the Departmental BoS and approved new courses and syllabus for PG programs. The approved new courses and its syllabus is given in **Annexure – 15**.

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3.4   **DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES**

3.4.1   **Introduction of BBA (Bachelor of Business Administration) Program from Academic Year 2021-22 with a sanctioned intake of 90 seats.**

In order to provide multidisciplinary approach and diversity mandated by New Education Policy and to open a channel of admission for Business and Management courses for students who have done 10+2 and are interested in taking Management Degree as a career, Department of Humanities and Social Sciences has proposed for introduction of BBA (Bachelor of Business Administration Program) from the Academic Year 2021-22 with a sanctioned intake of 90 seats to the program.

Academic Council considered the proposal of the Department and in principle approved introduction of BBA (Bachelor of Business Administration) program from the Academic Session -2021-22. The detailed proposal of the department is given in **Annexure – 16**.

The Academic Council directed that the same must be moved / recommended through the Departmental BoS alongwith details of entry level qualification, mode of admission, selection criteria, no. of seats, Fee structure, Credit requirement, Course Structure and syllabi of the newly proposed BBA program.

ITEM NO. 4   **APPROVAL OF THE MINUTES OF MEETING OF BOARD OF STUDIES (BoS) OF DEPARTMENTS**

4.1   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Biotechnology / Bioinformatics held on 05.12.2020 as given in **Annexure – 17** and noted the contents.

4.2   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Computer Sc. & Engg. and Information Technology held on 15.12.2020 as given in **Annexure – 18** and noted the contents.

4.3   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Electronics & Comm. Engg. held on 12.12.2020 as given in **Annexure – 19** and noted the contents.

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ITEM NO. 5   **REPORTING ITEMS**

The following Reporting Items were considered and approved by the Academic Council:-

5.1   To ratify admission status for the Academic Session 2020-21.

Chairman apprised the members about the admission status for the Academic Session 2020-21.

5.2   Implementation of NAD (National Academic Depository) through Digilocker.

Members were apprised about the implementation of NAD through Digilocker and status of uploaded documents.   The format of Final Degree Parchement as per Digilocker is as given in **Annexure – 20.**

5.3   Printing of Degree Parchment

Chairman apprised the members about the status of printing of Degree Parchment. Total 461 degree parchments were printed and are ready for dispatch to the students. Degree Scroll is as given in **Annexure – 21.**

5.4   Document Retention Policy for the Alumni.

Members were apprised about the document retention policy for the alumni wherein some important documents for retention were identified and unwanted folios were discarded. The proceedings of the Committee constituted for segregation is as given in **Annexure – 22.**

5.5   Classification of Files maintained at Registry.

Chairman apprised the members about the classification of files maintained at Registry considering the importance of the documents and retention period of the file.   Details of files maintained by each individual staff alongwith approved classification are as given in **Annexure – 23.**

5.6   Repolishing of Medals of Merit.

Members were apprised about the repolishing of Medals of Merit which had deteriorated due to long storage.

5.7   Annual Report.

Members were apprised about the printing of Annual Report of JUIT for 2018-19 and 2019-20 and submission to Regulatory Body and Govt. of H.P. in compliance to JUIT Act.

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5.8 **Placement Status 2020 passed out batch and 2021 passing out batch.**

Members were apprised of the placement status for 2020 passed out batch and 2021 passing out batch. The placement status of 2020 passed out batch is as given in **Annexure – 24** and for 2021 passing out batch is as given in **Annexure – 25**.

5.9 **Teaching learning process for ODD Semester 2020.**

Members were informed about the teaching learning process adopted for the ODD Semester 2020 separately for intermediate students and newly admitted students.

5.10 **Change in nomenclature of two courses of Minor in Information Technology.**

Members were apprised about the change in nomenclature of two courses of Minor in Information Technology. The approved changes are as under:-

Existing Nomenclature	Approved changes in Nomenclature
Software Engineering (3 Credits)	Software Engineering Practices (3 Credits)
Software Engineering Lab (2 Credits)	Software Engineering Practices Lab (2 Credits)

Approval of the Chairman, Academic Council is as given in **Annexure – 26**.

ITEM NO. 6 **ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR**

Sh. Sunil Sharma Ji, Executive Vice Chairman, JAL appreciated the efforts being made for improving the academic content and quality. He also suggested the following:-

1. Certain valuable inputs had been forwarded by Academic Council members to enhance the academic standards and practices so as to improve University rankings. These inputs must be shared with other members too. The Chairman informed that he is compiling the inputs received from the members and will share the same.

2. Need for restructuring of the Course Structure considering demand of the industry so as to make students more employable in the industry. Practical sessions to provide hands on experience should be incorporated in the course structure.

3. There is a need to develop skill development courses within the University considering the entrepreneurship needs of the region of Himachal, Chandigarh, Punjab and other adjoining areas so as to motivate the youth for self employment.

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4. The alumni network should be capitalised for enhancing the perception of the University.

5. Courses where sufficient number of admissions are not forthcoming should either be dropped or outflow of expenses on such courses to be minimized.

6. Introduction of MBA program can be evaluated for commencement.

Lt Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) suggested for following:-
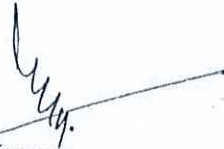
1. Need to explore admission of defence personnel in PG programs.

2. Placement initiatives should be carried out by nominating a dedicated team for such purpose.

3. Efforts for placement drive under University Entry Scheme should be made to place the students in Defence Services Technical Arms / Services.

There being no other points, meeting ended with a vote of thanks to the Chair.

Maj Gen Rakesh Bassi, SM (Retd)
Registrar & Non-Member Secretary

Approved

Prof. Vinod Kumar
Vice Chancellor
Chairman

Assistant Registrar (Academics)
Jaypee University of Information Technology
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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 28 JULY 2021 THROUGH ONLINE MODE

General

Academic Council meeting of Jaypee University of Information Technology, Waknaghat was held on 28 July, 2021 at 11.00 a.m. in online mode through Google Meet. The Chairman, Academic Council extended warm welcome to all the members present in the meeting and expressed thanks to Sh Sunil Sharma, Prof. S. C. Saxena, Prof. Lalit Kumar Awasthi and Lt. Gen Ravindra Mohan Chadha, PVSM, AVSM (Retd.) for their presence.

Chairman – Academic Council informed the members about inclusion of two members in new capacity:-

- Prof. Ashok Kumar Gupta was earlier member of Academic Council in the capacity of Head Civil Engg Department has been included as Dean upon assuming appointment of Prof. of Civil Engineering and Dean (Academics & Research)

- Prof. Ashish Kumar was earlier member of Academic Council as Professor other than Heads of Department has been included as Head of Civil Engineering Department as he has assumed the appointment Head Civil Engg. Deptt. .

The detailed agenda of the meeting was presented for deliberation and decisions of the Academic Council.

Attendance

The following members were present:-

Chairman

Prof. Vinod Kumar   Vice Chancellor, JUIT, Waknaghat

Head of the Other Institution of the Trust

Prof. S. C. Saxena   Pro-Chancellor, JIIT, Noida

Distinguished Academician nominated by the Pro-Chancellor

Prof. Lalit Kumar Awasthi   Director, NIT Jalandhar

Industry Professional nominated by the Pro-Chancellor

Sh. Sunil Sharma   Executive Vice Chairman, Jaiprakash Associates Ltd.
Lt Gen Ravindra Mohan Chadha,   Director, Jaiprakash Power Ventures Ltd.
PVSM, AVSM (Retd.)

The Dean of all Faculty of the University

~~Prof. Samir Dev Gupta~~   ~~Dean (Academics) & Head of Deptt. – CSE/IT~~
Prof. Ashok Kumar Gupta   Dean (Academics & Research)

Heads of the Departments / Centres of the University

Prof. Karanjeet Singh   HoD Mathematics
Prof. P. B. Barman   HoD PMS
Prof. Sudhir Kumar   HoD BT&BI

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Prof. Ashish Kumar	HoD CE
Dr. Rajiv Kumar	HoD ECE
Dr. Anupriya Kaur	HoD HSS

Professors other than Heads of Departments

Prof. Sunil Kumar Khah   Deptt. of PMS

Non-Member Secretary

Maj Gen Rakesh Bassi, SM (Retd.)   Registrar and Dean of Students

Leave of Absence

Leave of absence was granted by the Chairman to the following member:-

Dr. Satish Kumar   Director, NIT Kurukshetra

Agenda Items

ITEM NO. 1   **CONFIRMATION OF MINUTES OF LAST MEETINGS OF THE ACADEMIC COUNCIL**

Minutes of the meeting of the last ACM held on 29 December 2020 were forwarded to the members and no comments were received. The minutes of the last ACM as per **Annexure – 1** were confirmed.

ITEM NO. 2   **ACTION TAKEN REPORT**

The action taken on the items resolved in the last ACM dated 29 December 2020 were noted by the members.

ITEM NO. 3   **APPROVAL FOR INTRODUCTION OF BRIDGE COURSES FOR B.TECH 1ST YEAR STUDENTS TO BE ADMITTED IN ACADEMIC SESSION 2021-22 & 2022-23.**

Due to COVID-19 Pandemic during the Academic Session 2020-21 some of the important portions of class 12th syllabus were dropped by the CBSE, which was essential for the students to be enrolled to B. Tech Programs.

A committee under the Chairmanship of Prof Rajiv Saxena, Vice Chancellor, JU Anoopshahr was formed to design course contents of the Bridge Courses.

After detailed deliberation, the Academic Council approved the following Bridge Courses to be offered during the B.Tech 1st Semester for students to be admitted in the Academic Year – 2021-22 and 2022-23.

Courses	For	Contents
Bridge Course 1 (30 Hrs.)	CSE, IT, ECE, ECM	Physics (10 Hrs.) and Maths (20 Hrs.)
Bridge Course 2 (30 Hrs.)	BT, BI	Physics (10 Hrs.) and Biology (20 Hrs.)

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Bridge Course 3 (40 Hrs.)	Civil	Physics (10 Hrs.), Maths (20 Hrs.) and Chemistry (10Hrs.)

The above branch specific Bridge Courses will be Audit courses and mandatory for the students to pass and qualify.

Course contents and topics of the courses are as per **Annexure – 2** and detailed lecture plan is as per **Annexure – 3**.

ITEM NO. 4 **APPROVAL FOR FAST TRACK SEMESTER FOR STUDENTS HAVING SHORT OF CREDITS UPTO 12 CREDITS TOWARDS AWARD OF DEGREE AS A ONETIME SPECIAL PERMISSION DUE TO COVID PANDEMIC.**

For the Academic Year-2020-21, Summer Semester could not be conducted due to deferred courses of ODD & EVEN SEMESTER of Academic Session 2020-21 which were offered to all regular students during the EXTENDED SEMESTER-2021. Some of the students of 2015, 2016 & 2017 batches are having upto 12 credits short towards award of degree requirement due to their backlog courses.

A onetime special permission considering COVID Pandemic for all such student is sought to offer the backlog courses in the FAST TRACK Semester for students having upto 12 credits short so that they may be able to complete the requirement for award of degree by 30 September 2021.

The following was proposed:-
Semester Schedule: 16 August 2021 to 25 September 2021
Evaluation Scheme: Mid Term Examination (40 Marks) and End Term Examination (60 Marks).

After detailed deliberations, members unanimously agreed to the proposal and approved FAST TRACK Semester for students having upto 12 credits short for 2015, 2016 and 2017 batches as one time measure.

ITEM NO. 5 **APPROVAL – POLICY FOR RETENTION OF FACULTY FEEDBACK FORMS.**

Faculty Feedback is taken from the students in every semester i.e. ODD SEMESTER & EVEN SEMESTER each year. No defined policy for retention of Faculty Feedback forms is available as of now.

At present hard copies of the faculty feedback forms for the following semesters are available in our record room:-
* EVEN SEMESTER-2017-18
* ODD SEMESTER-2018-19
* EVEN SEMESTER-2018-19
* ODD SEMESTER-2019-20

In order to maintain the records of the Faculty Feedback for last 05 academic years, summary sheets of Faculty Feedback were retrieved from the Campus Connect for the following Academic Years:-

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Academic Year	Semester	Remarks
2016-17	ODD SEMESTER EVEN SEMESTER	Summary sheet retrieved from Campus Connect
2017-18	ODD SEMESTER EVEN SEMESTER	Summary sheet retrieved from Campus Connect
2018-19	ODD SEMESTER EVEN SEMESTER	Summary sheet retrieved from Campus Connect
2019-20	ODD SEMESTER EVEN SEMESTER	ODD SEMESTER Summary sheet retrieved from Campus Connect. EVEN SEMESTER not available due to COVID-19 Lockdown.
2020-21	ODD SEMESTER EVEN SEMESTER	Summary Sheet – Feedback collected in online mode.

All the above summary sheets of the Faculty Feedback have been counter signed by the Registrar & Dean of Students and by the Chairman, Academic Council for future record purpose.

Upon deliberation over the issue, members felt that Regulatory Bodies are asking for the Faculty Back Forms for last 05 Academic Sessions irrespective of the fact whether in hard copy or summary sheet of online faculty feedback.

Accordingly, members of the Council considered the policy decision of retention of the Faculty Feedback for last 05 Academic Sessions. The duly signed summary sheet retrieved from Campus Connect for last 05 Academic Sessions be retained. The available Hardcopies of the Faculty Feedback Forms collected from students for following Semesters be kept in records till they complete course of study at the University:-
- EVEN SEMESTER-2017-18
- ODD SEMESTER-2018-19
- EVEN SEMESTER-2018-19
- ODD SEMESTER-2019-20

ITEM NO. 6   APPROVAL FOR DEVELOPMENT OF IoT RESEARCH LAB.

Department of Computer Science & Engineering and Information Technology proposed for development of IoT Research Lab.

The need of development of IoT Research Lab was elaborated to the members of the Council and members agreed in principle for development of IoT Research Lab.

The Research Lab shall be common for all the departments and will be used by the Research Scholars. However, procurement of the items as per **Annexure – 4** will be done in a phased manner considering the availability of the funds.

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MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON 28 JULY 2021 THROUGH ONLINE MODE

ITEM NO. 7   **APPROVAL FOR COURSE STRUCTURE / MODIFICATION IN COURSE STRUCTURE OF VARIOUS DEPARTMENTS.**

7.1   **APPROVAL FOR COURSE STRUCTURE OF ELECTIVE COURSES FOR M.TECH BIOTECHNOLOGY WITH SPECIALISATION IN INDUSTRIAL BIOTECHNOLOGY.**

Department of Biotechnology & Bioinformatics through its BoS held on 16.07.2021 recommended Elective Courses for M.Tech Biotechnology with specialisation in Industrial Biotechnology. The proposed Elective Courses are as under:-

ELECTIVE COURSES ODD SEMESTER

S.No.	Course Code	Credits	Odd Semester (1st Semester)
1	20M1WBT131	03	Food Processing & Engineering
2	20M1WBT132	03	Plant Tissue Culture Technologies
3	18M1WBT134	03	Microbial Ecology
4	20M1WBT134	03	Advances in Gene Manipulations

ELECTIVE COURSES EVEN SEMESTER

S.No.	Course Code	Credits	Even Semester (2nd Semester)
1	20M1WBT231	03	QC Analysis and Management
2	20M1WBT232	03	Industrial Enzyme Technology
3	11IIWBT433	03	Plant Biotechnology
4	18M1WBT133	03	Advances in Computational System Biology

Members of the Council considered the recommendation of the departmental BoS and approved the above Elective Courses for ODD & EVEN SEMESTER for M.Tech Biotechnology with specialisation in Industrial Biotechnology.

7.2   **APPROVAL FOR COURSE STRUCTURE OF ELECTIVE COURSES FOR M.TECH BIOTECHNOLOGY WITH SPECIALISATION IN MEDICAL BIOTECHNOLOGY.**

Department of Biotechnology & Bioinformatics through its BoS held on 16.07.2021 recommended Elective Courses for M.Tech Biotechnology with specialisation in Medical Biotechnology. The proposed Elective Courses are as under:-

ELECTIVE COURSES ODD SEMESTER

S.No.	Course Code	Credits	Odd Semester (1st Semester)
1	20M1WBT133	03	Vaccine Production
2	11B1WBT840	03	Nano Biotechnology
3	20M1WBT134	03	Advances in Gene Manipulations
4	18M1WBT134	03	Microbial Ecology

ELECTIVE COURSES EVEN SEMESTER

S.No.	Course Code	Credits	Even Semester (2nd Semester)
1	20M1WBT233	03	Cancer Biology
2	20M1WBT234	03	Clinical Diagnostics
3	20M1WBT231	03	QC Analysis and Management
4	18M1WBT133	03	Advances in Computational System Biology

Members of the Council considered the recommendation of the departmental BoS and approved the above Elective Courses for ODD & EVEN SEMESTER for M.Tech Biotechnology with specialisation in Medical Biotechnology.

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7.3 **APPROVAL FOR COURSE STRUCTURE OF M.TECH (COMPUTER SCIENCE & ENGINEERING) WITH SPECIALISATION IN DATA SCIENCE.**

Department of Computer Science & Engineering and Information Technology through its BoS held on 24.07.2021 recommended for approval of the Course Structure of M.Tech (Computer Science & Engineering) with specialisation in Data Science.

Members considered the recommendation of the departmental BoS and approved the Course Structure for M.Tech (Computer Science & Engineering) with specialisation in Data Science.

The approved Course Structure is as per **Annexure – 5.**

7.4 **APPROVAL FOR MODIFICATION IN COURSE STRUCTURE OF M.TECH (ELECTRONICS & COMMUNICATION ENGINEERING).**

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for modification in Course Structure of M.Tech (Electronics & Communication Engineering).

Members considered the recommendation of the departmental BoS and approved modification in Course Structure of M.Tech (Electronics & Communication Engineering).

The approved modified Course Structure of M.Tech (Electronics & Communication Engineering) is as per **Annexure – 6.**

7.5 **APPROVAL FOR MODIFICATION IN COURSE STRUCTURE OF M.TECH (ELECTRONICS & COMMUNICATION ENGINEERING) WITH SPECIALISATION IN (IoT).**

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for modification in Course Structure of M.Tech (Electronics & Communication Engineering) with specialisation in IoT.

Members considered the recommendation of the departmental BoS and approved modification in Course Structure of M.Tech (Electronics & Communication Engineering) with specialisation in IoT.

The approved modified Course Structure of M.Tech (Electronics & Communication Engineering) with specialization in IoT is as per **Annexure – 7.**

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7.6 **APPROVAL FOR INTERCHANGE IN TWO COURSES OF B.TECH (ELECTRONICS & COMMUNICATION ENGINEERING) COURSE STRUCTURE.**

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for interchange in two courses of B.Tech (Electronics & Communication Engineering) Course Structure.

Members considered the recommendation of the departmental BoS and approved interchange in two courses of B.Tech (Electronics & Communication Engineering) as under:-.

Course Name	Credits	Proposed Interchange
Automatic Control Systems 18B11EC311	3	To be offered in B.Tech (ECE) 4th Sem in place of 3rd Sem.
Automatic Control Systems Lab 18B17EC371	1	
Fundamentals of Signals & Systems 18B11EC412	4	To be offered in B.Tech (ECE) 3rd Sem in place of 4th Sem.
Fundamentals of Signals & Systems Lab 18B17EC472	1	

However, the above interchange of the courses will be effective from new admission batch i.e. batch to be admitted in Academic Session 2021-22.

7.7 **APPROVAL FOR RESHUFFLING OF COURSES OF PROFESSIONAL ELECTIVES AND OPEN ELECTIVES - COURSE STRUCTURE OF B.TECH (ELECTRONICS & COMMUNICATION ENGINEERING).**

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for reshuffling of Courses of Professional Electives and Open Electives - Course Structure of B.Tech (Electronics & Communication Engineering).

Members considered the recommendation of the departmental BoS and approved the reshuffling of Courses of Professional Electives and Open Electives for Course Structure of B.Tech (Electronics & Communication Engineering).

The approved reshuffling of Professional Electives & Open Electives is as per **Annexure – 8**. The revised Course Structure incorporating new arrangements of Professional Electives & Open Electives of B.Tech (Electronics & Communication Engineering) is as per **Annexure – 9**.

The above reshuffling of Professional Electives & Open Electives will be effective from new admission batch i.e. batch to be admitted in Academic Session 2021-22.

7.8 **APPROVAL FOR CHANGE IN NOMENCLATURE OF TWO COURSES OF B.TECH 1ST SEMESTER.**

Department of Humanities & Social Sciences through its BoS held on 20.07.2021 recommended for change in nomenclature of two courses of B.Tech 1st Semester.

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Members considered the recommendation of the departmental BoS and approved the following changes in two courses of B.Tech 1ˢᵗ Semester:-

Existing Nomenclature	Approved Nomenclature
English & Technical Communication	English
English & Technical Communication Lab	English Lab

The L-T-P structure & credits of the above courses will remain unchanged. The above changes in the nomenclature will be effective from new admission batch i.e. batch to be admitted in Academic Session 2021-22.

7.9 APPROVAL FOR INTRODUCTION OF TWO NEW COURSES.

Department of Humanities & Social Sciences through its BoS held on 20.07.2021 recommended for introduction of two new Courses.

Academic Council considered the recommendation of the departmental BoS and approved introduction of following two courses in the semester mentioned against each:-

Course	Credits	L-T-P	Semester
Life Skills & Effective Communication	02	1-0-2	To be inducted in 2ⁿᵈ Semester
Professional Communication Practice	Audit	0-0-2	To be inducted in 3ʳᵈ Semester

The introduction of above two courses will be effective from new admission batch i.e. batch to be admitted in Academic Year 2021-22.

7.10 CHANGE IN CREDITS OF 3ᴿᴰ SEMESTER COURSE "INTERPERSONAL DYNAMICS VALUES AND ETHICS"

Department of Humanities & Social Sciences through its BoS held on 20.07.2021 recommended for change in Credits of 3ʳᵈ Semester Course "Interpersonal Dynamics Values and Ethics"

Academic Council considered the recommendation of the departmental BoS and approved following changes in the Credits of the 3ʳᵈ Semester Course "Interpersonal Dynamics Values and Ethics":-

Existing L-T-P & Credits	Approved L-T-P & Credits
3-0-0 (03 Credits)	1-0-0 (01 Credit)

The above approved change in the Credits of the course will be effective from the new admission batch i.e. batch to be admitted in Academic Year – 2021-22.

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ITEM NO. 8   APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER APPROVED COURSE STRCTURES OF VARIOUS DEPARTMENTS.

8.1   APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER APPROVED COURSE STRUCTURE OF M.Sc. (MICROBIOLOGY) 1ST YEAR PROGRAM.

Department of Biotechnology & Bioinformatics through its BoS held on 16.07.2021 recommended for approval of Course contents of courses listed under approved Course Structure of M.Sc. (Microbiology) 1st Year Program for 2021 onward batches.

Academic Council considered the recommendation of the departmental BoS and approved the Course contents of courses listed under approved Course Structure of M.Sc (Microbiology) 1st Year Program for 2021 onward batches as per **Annexure – 10.**

8.2   APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER COURSE STRUCTURE OF M.TECH (COMPUTER SCIENCE & ENGINEERING) SPECIALISATION IN DATA SCIENCE.

Department of Computer Science & Engineering and Information Technology through its BoS held on 24.07.2021 recommended for approval of Course contents of Courses listed under Course Structure of M.Tech (Computer Science & Engineering) specialisation in Data Science.

Members considered the recommendation of the departmental BoS and approved the Course contents of Courses listed under Course Structure of M.Tech (Computer Science & Engineering) specialisation in Data Science as per **Annexure – 11.**

8.3   APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER COURSE STRUCTURE OF M.TECH (ELECTRONICS & COMMUNICATION ENGINEERING) – 1ST YEAR PROGRAM.

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for approval of Course contents of Courses listed under Course Structure of M.Tech (Electronics & Communication Engineering) for 1st Year Program (1st & 2nd Semester).

Academic Council considered the recommendation of the departmental BoS and approved the Course contents of Courses listed under Course Structure of M.Tech (Electronics & Communication Engineering) for 1st Year Program (1st & 2nd Semester) as per **Annexure – 12.**

8.4   APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER COURSE STRUCTURE OF M.TECH (ELECTRONICS & COMMUNICATION ENGINEERING) SPECIALISATION IN INTERNET OF THINGS (IoT) – 1ST YEAR PROGRAM.

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for approval of Course contents of Courses listed under Course Structure of M.Tech (Electronics & Communication Engineering) specialisation in Internet of Things (IoT) - 1st Year Program (1st & 2nd Semester).

Academic Council considered the recommendation of the departmental BoS and approved the Course contents of Courses listed under Course Structure of M.Tech (Electronics & Communication Engineering) specialisation in Internet of Things (IoT) - 1st Year Program (1st & 2nd Semester) as per **Annexure – 13**.

8.5 APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER APPROVED COURSE STRUCTURE OF B.TECH (ELECTRONICS & COMPUTER ENGINEERING PROGRAM.

Department of Electronics & Communication Engineering through its BoS held on 23.07.2021 recommended for approval of Course contents of Courses listed under approved Course Structure of B.Tech (Electronics & Computer Engineering) Program.

Academic Council considered the recommendation of the departmental BoS and approved the Course contents of Courses listed under approved Course Structure of B.Tech (Electronics & Computer Engineering) Program as per **Annexure – 14**.

8.6 APPROVAL FOR COURSE CONTENTS OF COURSES LISTED UNDER APPROVED PROFICIENCY COURSES OF B.TECH (CIVIL ENGINEERING) PROGRAM.

Department of Civil Engineering through its BoS held on 19.07.2021 recommended for approval of Course contents of Courses listed under approved Proficiency Courses of B.Tech Civil Engineering Program.
Academic Council considered the recommendation of the departmental BoS and approved the Course contents of Courses listed under approved Proficiency Courses of B.Tech Civil Engineering Program as per **Annexure – 15**.

8.7 APPROVAL FOR COURSE CONTENTS OF COURSES OF "OPTIMIZATION TECHNIQUES" AND "FINITE ELEMENT METHODS" LISTED UNDER APPROVED OPEN ELECTIVE – III OF B.TECH (CIVIL ENGINEERING) PROGRAM.

Department of Civil Engineering through its BoS held on 19.07.2021 recommended for approval of Course contents of Courses of "Optimization Techniques" and "Finite Element Methods" listed under approved Open Elective – III of B.Tech (Civil Engineering) Program.

Academic Council considered the recommendation of the departmental BoS and approved the Course contents of Courses of "Optimization Techniques" and "Finite Element Methods" listed under approved Open Elective – II of B.Tech (Civil Engineering) Program as per **Annexure – 16**.

ITEM NO. 9 APPROVAL OF THE MINUTES OF MEETING OF BOARD OF STUDIES (BoS) OF DEPARTMENTS.

9.1 Academic Council considered the Minutes of Board of Studies (BoS) of Department of Biotechnology and Bioinformatics held on 16.07.2021 as given in **Annexure – 17** and noted the contents.

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9.2   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Computer Science & Engineering held on 24.07.2021 as given in **Annexure – 18** and noted the contents.

9.3   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Electronics & Communication Engineering held on 23.07.2021 as given in **Annexure – 19** and noted the contents.

9.4   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Civil Engineering held on 19.07.2021 as given in **Annexure – 20** and noted the contents.

9.5   Academic Council considered the Minutes of Board of Studies (BoS) of Department of Humanities & Social Sciences held on 20.07.2021 as given in **Annexure – 21** and noted the contents.

ITEM NO. 10   **REPORTING ITEMS.**

The following Reporting Items were noted by the Academic Council:-

10.1   **CHANGE IN COURSE STRUCTURE OF PROFESSIONAL ELECTIVES AND OPEN ELECTIVES OF B.TECH (ELECTRONICS & COMMUNICATION ENGINEERING) PROGRAM.**

Chairman apprised the members about the change in Course Structure of Professional Electives and Open Electives of B.Tech (Electronics & Communication Engg.) Program. The approved changes are as per **Annexure – 22.**

10.2   **CHANGE IN COURSE STRUCTURE OF PROFESSIONAL ELECTIVES OF B.TECH (INFORMATION TECHNOLOGY) PROGRAM.**

Chairman apprised the members about the change in Course Structure of Professional Electives of B.Tech (Information Technology) Program. The approved changes are as per **Annexure – 23.**

10.3   **DISCARDING OF T1, T2 AND MID TERM RESULTS.**

Members were apprised about discarding of T1, T2 and MID TERM Result Files. The list of discarded Result Files is as per **Annexure – 24.**

10.4   **EVALUATION SCHEME FOR EXTENDED SEMESTER (SPECIAL SEMESTER – JUNE/JULY 2021).**

Members were apprised about the Evaluation Scheme followed for EXTENDED SEMESTER (Special Semester – JUNE/JULY 2021). The approved Evaluation Scheme is as per **Annexure – 25.**

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10.5 CHANGE IN COURSE STRUCTURE OF PROFICIENCY COURSES OF B.TECH (COMPUTER SCIENCE & ENGINEERING) AND B.TECH (INFORMATION TECHNOLOGY) PROGRAMS.

Members were apprised about the change in Course Structure of Proficiency Courses of B.Tech (Computer Science & Engineering) and B.Tech (Information Technology) Program. The approved changes are as per **Annexure – 26.**

10.6 RETENTION OF ACADEMIC / OTHER DOCUMENTS FOR PH.D ALUMNI

Chairman apprised the members about the retention of Academic & other Documents for Ph.D Alumni. The documents identified for retention are as per Agenda item 10.6 and proceedings of the Committee are as per **Annexure – 27 & Annexure – 28.**

10.7 AGREEMENT WITH INDIASPARK (OPC) PRIVATE LIMITED, GURGAON, HARYANA FOR IMB OPEN P-TECH (ONLINE LEARNING PROGRAM)

Chairman apprised the members about Agreement signed with Indiaspark (OPC) Private Limited, Gurgaon, Harynana for IMB Open P-Tech (Online Learning Program). Detailed Agreement is as per **Annexure – 29.**

10.8 DATE OF NOTIFICATION, DATE FOR AWARD OF PH.D DEGREE AND COMPLETION DATE ON FINAL DEGREE PARCHMENT – PH.D. STUDENTS

Chairman apprised the members that earlier, the date of final oral defence viva of the Ph.D scholar was considered as the date of Notification for award of Ph.D degree as the final defence viva recommendations were approved by the Vice Chancellor on the day of viva itself.

Due to COVID-19 situation, final oral defence viva of the scholar is now being conducted in online mode and recommendation from the examiner is taken through e-mail and is put up for signature of the other DPMC members and approval of Dean and Vice Chancellor. In such conditions, date of final oral defence viva and final approval by the Vice Chancellor differ.

Considering above, it was decided that the date of approval by the Vice Chancellor on final defence recommendation would be considered as date of Notification and award of Ph.D degree and completion date in final Ph.D Degree parchment.

Copy of the approval is as per **Annexure – 30.**

10.9 CHANGE IN 4TH SEMESTER COURSE STRUCTURE OF B.TECH (INFORMATION TECHNOLOGY) PROGRAM.

Members were apprised about the change in 4th Semester Course Structure of B.Tech (Information Technology) Program. Approval for change in the Course Structure is as per **Annexure – 31.**

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10.10 EVALUATION SCHEME FOR 04 CREDIT COURSE (03 CREDITS THROUGH MOOCS & 01 CREDIT THROUGH TUTORIAL)

Members were apprised about the Evaluation Scheme for 04 Credit Course (03 Credits through MOOCs and 01 Credit through Tutorial). The approved Evaluation scheme is as per **Annexure – 32**.

10.11 IMPLEMENTATION OF NATIONAL EDUCATION POLICY – 2020.

Members were apprised about the letter received from HPPERC directing not to implement NEP till clear guidelines are obtained from the Central Regulatory Bodies / Government to ensure the uniformity in courses as well as syllabus of various Universities across the country. Copy of letter is as per **Annexure – 33**.

10.12 UGC GUIDELINES ON EXAMINATIONS AND ACADEMIC CALENDAR IN VIEW OF THE COVID-19 PANDEMIC – JULY 2021.

Chairman apprised the members about the UGC Guidelines on Examinations and Academic Calendar in view of the COVID-19 Pandemic – July 2021. The detailed Guidelines and Academic Calendar is as per **Annexure – 34**.

10.13 RATIFICATION OF SEAT INTAKE – ACADEMIC YEAR – 2021-22.

Chairman apprised the members about the Seat Intake for various programs for Academic Year – 2021-22 as under:-

Undergraduate Programs (B.Tech)

Program		Seat Intake
Computer Science & Engineering	-	330
Information Technology	-	60
Civil Engineering	-	60
Biotechnology	-	30
Bioinformatics	-	30
Electronics & Communication Engineering	-	30
Electronics & Computer Engineering	-	30
Total	-	**570**

Post Graduate Programs (M.Sc)

Program		Seat Intake
Biotechnology	-	30
Microbiology	-	30
Total	-	**60**

Post Graduate Programs (M.Tech)

Program		Seat Intake
Computer Science & Engineering	-	36
CSE with specialisation in Information Security		
CSE with specialisation in Data Science		
Electronics & Communication Engineering	-	24
ECE with specialisation in Internet of Things (IoT)		
Biotechnology	-	36
BT with specialisation in Industrial Biotechnology		

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BT with specialisation in Medical Biotechnology

CE with specialization in Construction Management	- 36
CE with specialization in Structural Engineering	
CE with specialization in Environmental Engineering	
Total	- 132

10.14 USE OF OPEN SOURCE SOFTWARE IN DIFFERENT UNDERGRADUATE COURSES.

Chairman apprised the members about the use of Open Source Software in different Undergraduate Courses. The list of open source software listed by department of Civil Engineering is as per **Annexure – 35**.

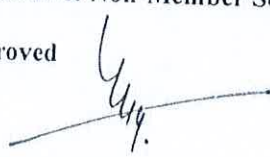**ITEM NO. 11 ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR**

There being no other points, meeting ended with a vote of thanks to the Chair.

Maj Gen Rakesh Bassi, SM (Retd)
Registrar & Non-Member Secretary

Approved

Prof. Vinod Kumar
Vice Chancellor
Chairman

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M. Tech. Biotechnology – 2021 Batch onwards

Program Educational Objectives (PEOs)

PEO-1: To impart basic and advance knowledge in the emerging areas biotechnologies

PEO-2: To inculcate the laboratory skills to cater the needs of industries and high end research

PEO-3: To inculcate team work with ethics to solve problems using multidisciplinary approaches

M.Tech. Biotechnology Course Curriculum

FIRST SEMESTER

Sr.No.	Code	Subject	L-T-P	Credits
1	13M11BT111	Advances in Molecular Cell Biology	3-0-0	3
2	13M17BT171	Advances in Molecular Cell Biology Lab	0-0-2	1
3	18M11BT113	Research Methodology and Ethics	3-0-0	3
4	18M11BT114	Patenting in Biotechnology	3-0-0	3
5	13M11BT112	Advanced Bioinformatics	3-0-0	3
6	13M17BT172	Advanced Bioinformatics Lab	0-0-2	1
7	13M11BT114	High Throughput Technologies	3-0-0	3
8	Elective	DE-1	3-0-0	3
9	Elective	DE-II	3-0-0	3
		Total	25	23

SECOND SEMESTER

Sr.No.	Code	Subject	L-T-P	Credits
1	14M11BT211	Industrial Biotechnology	3-0-0	3
2	14M17BT271	Industrial Biotechnology Lab	0-0-2	1
3	14M11BT212	Immunotechnology	3-0-0	3
4	14M17BT272	Immunotechnology Lab	0-0-2	1
5	14M11BT214	Bioenterpreunership Management	2-0-0	2
6	14M11BT213	Functional Genomics	3-0-0	3
7	14M17BT273	Functional Genomics Lab	0-0-2	1
8	14M11BT215	Metabolic Engineering	3-0-0	3
9	Elective	DE-III	3-0-0	3
10	Elective	DE-1V	3-0-0	3
		Total	26	23

THIRD SEMESTER

Sr.No.	Code	Subject	L-T-P	Credits
1.		Seminar	0-0-4	2
4.		Project- Thesis Part I		12
		Total	04	14

FOURTH SEMESTER

Sr. No.	Code	Subject	L-T-P	Credits
1.		Seminar	0-0-4	2
3.		Project- Thesis Part II		14
		Total	04	16

Total Credit Hours: 76

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M. Tech. Biotechnology Electives courses

ODD SEMESTER			
	Course Code	Credits	Elective Courses
1	20M1WBT131	03	Food Processing & Engineering
2	20M1WBT132	03	Plant Tissue Culture Technologies
3	18M1WBT134	03	Microbial Ecology
4	20M1WBT134	03	Advances in Gene manipulations
5	20M1WBT133	03	Vaccine Production
6	18M1WBT133	03	Advances in Computational System Biology

EVEN SEMESTER			
	Course Code	Credits	Elective Courses
1	20M1WBT232	03	Industrial Enzyme Technology
2	20M1WBT231	03	QC Analysis and Management
3	20M1WBT234	03	Clinical Diagnostics
4	11IIWBT433	03	Plant Biotechnology
5	11BIWBT840	03	Nano Biotechnology

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Master of Technology in Electronics & Communication Engineering
Effective from Academic Session – 2021-22

Detailed Course Structure & Curriculum

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY

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SEMESTER - I

S. No.	Course Code	Name of the Subjects	C/E	L	T	P	Total	Credits
			C/E	L	T	P		
1	21M11EC112	Embedded Systems and Applications	C	3	0	0	3	3
2	21M11EC111	Sensor and Smart Instrumentation	C	3	0	0	3	3
3	21M11EC113	Object Oriented Programming	C	3	0	0	3	3
4		Departmental Elective - I	E	3	0	0	3	3
5		Departmental Elective - II	E	3	0	0	3	3
6		Departmental Elective - III	E	3	0	0	3	3
7	21M11EC172	Advanced Communication Lab	C	0	0	6	6	3
						Total	24	21

SEMESTER - II

S.No.	Course Code	Subject Names	C/E	L	T	P	Total	Credits
			C/E	L	T	P		
1	21M11EC211	Digital System design using verilog HDL	C	3	0	0	3	3
2	21M11EC212	Artificial Intelligence and Expert Systems	C	3	0	0	3	3
3	21M11EC213	Network Security Protocols	C	3	0	0	3	3
4		Departmental Elective - IV	E	3	0	0	3	3
5		Departmental Elective - V	E	3	0	0	3	3
6		Open Elective	E	3	0	0	3	3
7	21M11EC272	Advanced Signal Processing Lab	C	0	0	6	6	3
						Total	24	21

SEMESTER - III

S. No.	Course Code	Name of the Subjects	C/E	L	T	P	Total	Credits
			C/E	L	T	P		
1	21M19EC391	Literature Review / Seminar	C	0	0	6	6	3
2	21M19EC392	Dissertation Part - I	C	0	0	28	28	14
						Total	34	17

SEMESTER - IV

S.No.	Course Code	Subject Names	C/E	L	T	P	Total	Credits
			C/E	L	T	P		
1	21M19EC491	Seminar	C	0	0	6	6	3
2	21M19EC492	Dissertation Part - II	C	0	0	28	28	14
						Total	34	17

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S.No.	Course Code	Subject Names	C/E	Course Hours L	T	P	Total	Credits
**LIST OF ELECTIVES FOR M. TECH ECE**
**ELECTIVE – I**
1	21M1WEC137	Advanced Cognitive Radio	E	3	0	0	3	3
2	21M1WEC138	Advanced Software Defined Radio	E	3	0	0	3	3
3	21M1WEC139	Fault Tolerant Communication Networks	E	3	0	0	3	3
4	21M1WEC140	Advanced Next Generation Communication	E	3	0	0	3	3
**Elective - II**
1	21M1WEC141	Advanced Control Systems	E	3	0	0	3	3
2	21M1WEC142	Networked Distributed Control	E	3	0	0	3	3
3	21M1WEC143	Fundamentals of MIMO Systems	E	3	0	0	3	3
4	21M1WEC144	Mobile Adhoc and Sensor Network	E	3	0	0	3	3
**Elective - III**
1	21M1WEC145	Architecture and Algorithms for DSP Systems	E	3	0	0	3	3
2	21M1WEC146	Statistical & Adaptive Signal Processing	E	3	0	0	3	3
3	21M1WEC147	Statistical Signal Processing	E	3	0	0	3	3
4	21M1WEC148	Radar and Sonar Signal Processing	E	3	0	0	3	3
5	21M1WEC149	Computational Intelligence and Applications	E	3	0	0	3	3
**Elective - IV**
1	21M1WEC237	Biomedical signal and Image Processing	E	3	0	0	3	3
2	21M1WEC238	Advanced Digital Image Processing	E	3	0	0	3	3
3	21M1WEC239	CMOS Digital Design Techniques	E	3	0	0	3	3
4	21M1WEC240	Real Time Embedded System	E	3	0	0	3	3
5	21M1WEC241	VLSI in Biomedical Processing System	E	3	0	0	3	3
**Elective - V**
1	21M1WEC242	Anteena and Radio Wave Propagation	E	3	0	0	3	3
2	21M1WEC243	Antenna Theory and Techniques	E	3	0	0	3	3
3	21M1WEC244	RF IC Design	E	3	0	0	3	3
4	21M1WEC245	Analog IC Design	E	3	0	0	3	3

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