

DIRECTION

No. 43 /2021

Date :- 9/08/2021

Subject :- Examination leading to the Degree of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (Four Year Degree Course ... Semester Pattern) (C.B.C.S.) in the Faculty of Science & Technology, Direction, 2021.

Whereas, Direction No. 30 of 2010 in respect of the Examination leading to the Degree of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (Four Year Degree Course ... Semester Pattern) as per Credit Grade System in the Faculty of Engineering & Technology, is in existence up to the session 2018-19 and same has been abrogated stage wise vide Direction No. 31/2019 which is in existence,

AND

Whereas, Direction Nos. 31/2011, 19/2016 and 20/2016 in respect of the Schemes of teaching & examination of Semesters III to VIII of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (Four Year Degree Course Semester Pattern) as per Credit Grade System in the Faculty of Engineering & Technology are in existence,

AND

Whereas, the Honøble Vice-Chancellor had constituted a Committee of all the Chairpersons of the Board of Studies of Engineering under the Chairmanship of the Dean, Faculty of Science & Technology for preparing the Schemes of teaching & examination of Under Graduated Courses of Semester III to VIII of B.E. /B.Text.E. /B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) as per the guidelines of A.I.C.T.E. Model Curriculum to be implemented from the session 2020-21 & onwards in phase wise manner,

AND

Whereas, the Committee in its series of meetings dtd. 6.6.2020, 22.6.2020 & 23.6.2020 has prepared, finalized and recommended the Schemes of teaching & examination of B.Tech.(Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) of Semester III to VIII as per guidelines of AICTE Model Curriculum to the office to be implemented from the session 2020-21 & onwards in phase wise manner,

AND

Whereas, the Honøble Vice-Chancellor had accepted and accorded approval to the schemes of teaching & examination of Semester III to VIII of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) on behalf of Faculty of Science & Technology and Academic Council on 24.7.2020 to be implemented from the session 2020-21 & onwards in phase wise manner,

AND

Whereas, the Schemes of teaching & examinations of Semester III to VIII of B.Tech.(Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) in the Faculty of Science & Technology are required to be regulated by the Ordinance / Regulation,

AND

Whereas, at the time of considering the directions issued under Section 12 (8) of 12 of the Maharashtra Public Universities Act, 2016, the Academic Council in its meeting held on 13.1.2020 vide item No. 04 has resolved as under :

Hereinafter, afresh Direction shall be issued by superceding earlier Direction if the relative legislation not be made in a stipulated period.

And

Whereas, earlier Direction Nos. 31/2019 and 9/2020 issued in this regard have already been lapsed,

Whereas, the existing direction No. 22/2020 regarding Examination leading to the Degree of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (Four Year Degree Course ... Semester Pattern) (C.B.C.S.) in the Faculty of Science & Technology lapsed as per sub Section (8) of Section 12 of the Maharashtra Public Universities Act, 2016 and could not be converted into Ordinance / Regulation. Hence, now it is imperative to issue a fresh direction,

And

Whereas, making the Ordinance /Regulation is a time consuming process,

Now, therefore, I, Dr. Vilas M. Bhale, Vice-Chancellor (Acting), Sant Gadge Baba Amravati University, in exercise of powers conferred upon me under sub-section (8) of Section 12 of the Maharashtra Public Universities Act, 2016, do hereby direct as under :-

(1) This Direction shall be called Examination leading to the Degree of B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) (Four Year Degree Course... Semester Pattern) (C.B.C.S.) in the Faculty of Science & Technology, Direction, 2021ö.

(2) This Direction shall come into force from the date of its issuance.

(3) Subject to the conditions prescribed by the A.I.C.T.E. / Government from time to time, for admission to First Year (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) course the candidate shall be considered eligible:

Passing 12th Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education, with subjects:

- i) English (Higher or Lower)
- ii) Modern Indian Language (Higher or Lower)
- iii) Mathematics and Statistics
- iv) Chemistry
- v) Physics

vi) Any other Optional subject from out of the list prescribed by the said Secondary and Higher Secondary Board.

OR

- i) English (Higher or Lower)
- ii) Mathematics and Statistics
- iii) Chemistry
- iv) Physics
- v) Vocational subject (Defined by the said board as a Technical Subject)

OR

An Examination recognized by the Sant Gadge Baba Amravati University as an equivalent to the above.

(4) Subject to the conditions prescribed by the A.I.C.T.E. / Govt. from time to time for direct admission to the second year B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) the candidates shall be considered eligible :-

Passing Diploma in respective branch in First Division, awarded by the Board of Technical Examination of Maharashtra State, Mumbai.

OR

Any Diploma equivalent to the corresponding diploma of the Board of Technical Examination of Maharashtra State, Mumbai.

(5) The Degree of Bachelor of Technology (Chemical Technology) shall be awarded to examinee who is in accordance with the provisions of this Direction qualifies for the award in any of the following branches of Technology with specialization in :-

- i. Food Technology
- ii. Pulp & Paper Technology
- iii. Oil & Paint Technology
- iv. Petrochemical Technology

(6) (i) There shall be eight semester examinations leading to the Degree of B.Tech. (Chem.Tech.) (First, Second, Third, Fourth, Fifth, Sixth, Seventh & Eight Semester B.Tech. (Chem.Tech.)

(ii) The first & Second Semester Examinations shall be common for all the branches.

(7) The period of Academic Session shall be such as may be notified by the University.

(8) The main examination of first, third, fifth and seventh semester of B.Tech.(Chem.Tech.) shall be held by the University in winter & supplementary examination in summer every year, and main examination of second, fourth, sixth & eighth semester shall be held in Summer & the supplementary examination in Winter every year.

(9) The Internal Assessment marks for theory should be based on Class Test and Attendance as follows:-

(a) Class Test Marks will be based upon two Class Tests	-	15
(b) Attendance	-	Mark/s
75% to 80%	-	1
81% to 85%	-	2
86% to 90%	-	3
91% to 95%	-	4
96% to 100%	-	5

Wherever, if internal assessment marks are given (10) then it should be converted out of 20.

(10) Subject to his/her compliance with the provisions of this Direction & other Ordinances pertaining to Examination in force from time to time, the applicant for admission, at the end of the course of study of a particular semester/session, to an Examination specified in column (1) of the **table I** below, shall be eligible to appear if,

- i) he/she satisfies with the conditions in the table and the provisions there under.
- ii) he/she complies with the provisions of the Ordinance pertaining to the Examination in general from time to time.
- iii) he/she has prosecuted a regular course of study in a college affiliated to the University.

TABLE I

Name of Exam	The student should have passed the exam. of	The student should have satisfactorily completed the following semester	The student should have passed the following exam.
1	2	3	4
First Sem. B.Tech. (Chem.Tech.)	XII standard Examination or equivalent	-----	-----
Second Sem. B.Tech. (Chem.Tech.)	-----	I Semester B.Tech.(Chem. Tech.)	-----
Third Sem. B.Tech. (Chem.Tech.)	-----	II Semester B.Tech.(Chem. Tech.)	2/3 rd heads of I & II Sem. combined together
Fourth Sem. B.Tech. (Chem.Tech.)	-----	III Semester B.Tech.(Chem. Tech.)	-----
Fifth Sem. B.Tech. (Chem.Tech.)	I & II Sem. B.Tech.(Chem. Tech.)	IV Semester B.Tech.(Chem. Tech.)	2/3 rd heads of III & IV Sem. combined together
Sixth Sem. B.Tech. (Chem.Tech.)	-----	V Semester B.Tech.(Chem. Tech.)	-----
Seventh Sem. B.Tech. (Chem.Tech.)	III & IV Sem. B. Tech. (Chem. Tech.)	VI Semester B.Tech.(Chem. Tech.)	2/3 rd heads of V & VI Sem. combined together
Eighth Sem. B.Tech. (Chem.Tech.)	-----	VII Semester B.Tech. (Chem. Tech.)	-----

(11) An examinee who has passed 2/3rd heads of passing shall be allowed to keep term in the next higher class.

Explanation :

- i) While calculating 2/3 rd heads of passing, fraction if any shall be ignored.
- ii) For considering the heads of passing, every theory and every practical shall be considered as separate head of passing.

(12) The schemes of teaching & examinations shall be as provided under **Appendix-A** appended with this direction.

(13) The fees for each B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (Four Year Degree Course.... Semester Pattern) Examinations (Theory & Practical) shall be as prescribed by the University from time to time.

(14) The computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) of an examinee shall be done as given below :-

The marks will be given in all examinations which will include college assessment marks and the total marks for each Theory / Practical shall be converted into Grades as per **Table II**.

SGPA shall be calculated based on Grade Points corresponding to Grade as given in Table II and the Credits allotted to respective Theory / Practical shown in the scheme for respective semester.

SGPA shall be computed for every semester and CGPA shall be computed only in VIII semester. The CGPA of VIII semester shall be calculated based on SGPA of VII and SGPA of VIII semester as per following computation :-

$$SGPA = \frac{C_1 \times G_1 + C_2 \times G_2 + \dots + C_n \times G_n}{C_1 + C_2 + \dots + C_n}$$

Where, C₁ = Credit of individual Theory / Practical
 G₁ = Corresponding Grade Point obtained in the respective Theory / Practical

$$(SGPA)_{VII} \times (Cr)_{VII} + (SGPA)_{VIII} \times (Cr)_{VIII}$$

$$\text{CGPA} = \frac{\text{-----}}{(\text{Cr})_{\text{VII}} + (\text{Cr})_{\text{VIII}}}$$

Where, (SGPA)_{VII} = SGPA of VII Semester
 (Cr)_{VII} = Total Credits for VII Semester
 (SGPA)_{VIII} = SGPA of VIII Semester
 (Cr)_{VIII} = Total Credits for VIII Semester

CGPA equal to 6.00 and above shall be considered as equivalent to First Class which shall be mentioned on Grade Card of VIII Semester as a foot note.

TABLE II
THEORY

Grade	Percentage of Marks	Grade Points
AA	80 $\ddot{\text{O}}$ Marks $\ddot{\text{O}}$ 100	10
AB	70 $\ddot{\text{O}}$ Marks < 80	9
BB	60 $\ddot{\text{O}}$ Marks < 70	8
BC	55 $\ddot{\text{O}}$ Marks < 60	7
CC	50 $\ddot{\text{O}}$ Marks < 55	6
CD	45 $\ddot{\text{O}}$ Marks < 50	5
DD	40 $\ddot{\text{O}}$ Marks < 45	4
FF	00 $\ddot{\text{O}}$ Marks < 40	0
ZZ	Absent in Examination	$\hat{\text{o}}$

PRACTICAL

Grade	Percentage of Marks	Grade Points
AA	85 $\ddot{\text{O}}$ Marks $\ddot{\text{O}}$ 100	10
AB	80 $\ddot{\text{O}}$ Marks < 85	9
BB	75 $\ddot{\text{O}}$ Marks < 80	8
BC	70 $\ddot{\text{O}}$ Marks < 75	7
CC	65 $\ddot{\text{O}}$ Marks < 70	6
CD	60 $\ddot{\text{O}}$ Marks < 65	5
DD	50 $\ddot{\text{O}}$ Marks < 60	4
FF	00 $\ddot{\text{O}}$ Marks < 50	0
ZZ	Absent in Examination	$\hat{\text{o}}$

(15) (i) The scope of the subjects shall be as indicated in the syllabi.

(ii) The medium of instruction and examination shall be English.

(16) As per A.I.C.T.E. Model Curriculum, an Induction Program of three (3) weeks duration is mandatory to the students at the start of the first Year.

(17) The Schemes of teaching & examination of Semester I & II B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) had been already implemented from the session 2019-20 which was notified vide Direction No. 31/2019.

(18) The Schemes of teaching & examination of Semester III to VIII of B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) as per A.I.C.T.E. Model Curriculum shall be implemented in phase wise manner as under :

- (i) For Semester III & IV from the session - 2020-2021
- (ii) For Semester V & VI from the session - 2021-2022
- (iii) For Semester VII & VIII from the session - 2022-2023

(19) The Schemes of teaching & examination of Semester I to VIII of B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) as per A.I.C.T.E. Model Curriculum shall be as per Appendices A and B appended with this Direction.

- (20) (i) The Semester wise chart regarding the workload and Credits as per A.I.C.T.E. Model Curriculum guidelines for Engineering & Technology Courses for the schemes of teaching & examination of Sem. III to VIII is as under:

CHART

Sem	Theory	Pract	Theory credits	Pract. Credits	Semester Credits	Hours week	Remarks
I	4	4	15	5	20	25	Started from session 2019-20
II	4	4	15	5	20	25	
III	5	4	16	4	20	26	ES 2T, 0 credit
IV	5	4	18	4	22	26	ES 2T, 2credit
V	5	4	16	4	20	24	PE-1,OE-1
VI	5	4	16	4	20	24	PE-1,OE-1
VII	5	3	16	3+4	23	30	PE-2 or 3, Project seminar - 8 hrs, 4 credit
VIII	4	2	12	2+6	20	28	PE-1or 2, Project seminar 12hrs, 6 credit
Total	37	29	124	41	165		

- (ii) The workload for the subject Environment Studies for Semester III & IV (3ES06 & 4ES06) which is common for all branches in all the Faculties as per Ordinance No. 42/2005 is as : 2 theory in III semester with no credits, 2 theory in IV semester with 2 credits and examination at the end of IV semester at college level having distribution as : 80 (Max. marks for Theory) + 20 (Internal) = 100 (Total marks) 6 40 (Minimum marks for passing)
- (iii) Open Electives (OE): Open Elective to be opted from the courses offered by other disciplines of Engineering & Technology of the university / Massive Open learning Courses (MOOC) such as SWAYAM pertaining to the profession.
- (iv) Students completing Foreign language course or completing minimum 4 weeks internship (Full time in Vacations) or participating in sports at National / International level shall be exempted from O.E. in the same / adjacent semester.
- (v) An Orientation Program of 15 hours duration on MOOC to be offered to the students during
(a) Vth Semester: Indian Constitution (b) VIth Semester: Indian Traditional Knowledge.

(21) The Provisions of Ordinance No. 18 of 2001 in respect of an Ordinance to provide grace marks for passing in a Head of passing and improvement of division (Higher Class) and getting distinction in the subject and condonation of deficiency of marks in a subject in all the Faculties prescribed by the Direction No. 15 of 2017 shall be applicable to each examination under this Direction.

(22) An examinee who does not pass; or who fails to present himself/herself for the examination shall be eligible for readmission to the same examination/semester, on payment of fresh fees and such other fees as may be prescribed from time to time.

(23) A candidate who could not complete a semester satisfactorily or who has failed will be eligible for readmission to the same semester. However, readmission to semester should be allowed only when a regular session is running for the particular semester.

(24) One who has passed the Final B.Tech. (Chem. Tech.) examination of the University in one branch and who desires to take B.Tech. (Chem. Tech.) degree in another branch {except Polymer (Plastic) Tech.} shall be admitted to the Third semester of that branch and shall be governed by this Direction for all other purposes.

(25) After examinations, the Board of Examination & Evaluation shall publish the result of the examinees as early as possible and the branch wise merit list shall be notified as per Ordinance No.6.

(26) Notwithstanding any thing to the contrary in this Direction, no one shall be admitted to any examination under this Direction, if he/she has already passed the said examinations or an equivalent examinations of any statutory University.

(27) (i) The examinees who have passed in all the subjects prescribed for all the examinations of the particular branch shall be eligible for award of the Degree of Bachelor of Technology (Chemical Technology) in the branch concerned.

(ii) The Degree certificate in the prescribed form, shall be signed by the Vice - Chancellor.

(28) The Guidelines of the A.I.C.T.E. New Delhi and D.T.E., Govt. of Maharashtra, Mumbai shall be applicable from time to time after having noted / approved by the Competent Authority.

(29) The provisions in existing Direction Nos. 31/2011, 19/2016 and 20/2016 shall stand abrogated stage-wise and only applicable to the students of Semester III to VIII of the Course B.Tech.(Chemical Technology) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) who have already sought their admissions as per its provisions and shall stand abrogated after exhausting the chances given to the failure students of Old Course by the University.

Date : - 08 /08/2021

Sd/-
(Dr. Vilas M. Bhale)
Vice Chancellor (Acting)

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)
Semester Pattern (Choice Based Credit System)
Semester. I B.Tech.

Sr. No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark	
External	Internal																
01	1SCT1	Applied Inorganic Chemistry	3	1	0	4	3	3	80	20	100	40	-	-	-	-	
02	1SCT2	Engineering Physics	4	-	0	4	4	3	80	20	100	40	-	-	-	-	
03	1SCT3	Engineering Mathematics I	3	1	0	4	4	3	80	20	100	40	-	-	-	-	
04	1SCT4	Computer Programming	3	-	0	3	3	3	80	20	100	40	-	-	-	-	
05	1SCT5	Mechanical Technology	3	-	0	3	3	3	80	20	100	40	-	-	-	-	
		Practical															
06	1SCT6	Applied Inorganic Chemistry	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
07	1SCT7	Engineering Physics	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
08	1SCT8	Computer Programming	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
		Total	16	2	6	24	20		6	12	500				150		
Total - 650																	

Note- An induction Program of Three Weeks duration to be offered to the students at the start of First Year.

Semester. II B.Tech.

Sr. No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark	
External	Internal																
01	2SCT1	Applied Physical Chemistry	3	1	0	4	4	3	80	20	100	40	-	-	-	-	
02	2SCT2	Basic Electrical Engineering	3	-	0	3	3	3	80	20	100	40	-	-	-	-	
03	2SCT3	Engineering Mechanics	3	1	0	4	3	3	80	20	100	40	-	-	-	-	
04	2SCT4	Engineering Graphics	3	0	0	3	3	3	80	20	100	40	-	-	-	-	
		Practical															
05	2SCT5	Workshop	0	0	4	4	2	-	-	-	-	-	25	25	50	25	
06	2SCT6	Applied Physical Chemistry	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
07	2SCT7	Basic Electrical Engineering	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
08	2SCT8	Engineering Mechanics	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
09	2SCT9	Engineering Graphics	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
10	2SCT10	English Communication skill	0	0	2	2	1	-	-	-	-	-	25	25	50	25	
		Total	12	2	14	28	20				400				300		
Total - 700																	

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester. III B.Tech.

Appendix - A

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Theory	Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks Coll. Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark
External	Internal																
01	3CT01	Applied Organic Chemistry	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
02	3CT02	Applied Physical Chemistry II	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
03	3CT03	Strength of Materials	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
04	3CT04	Applied Thermodynamics	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
05	3CT05	Process Calculations	3	1	-	4	4	3	80	20	100	40	-	-	-	-	
06	4ES06	Environmental Studies	2	-	-	2	0	-	-	-	-	-	-	-	-	-	
		PRACTICALS															
06	3CT07	Applied Organic Chemistry	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
07	3CT08	Applied Physical Chemistry II	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
08	3CT09	Strength of Materials	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
09	3CT10	Applied Thermodynamics	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
		Total	17	1	8	26	20				500				200		
Total - 700																	

Note – Environmental Science as per Direction No. 20/2021.

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester. IV B.Tech.

Appendix - A

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Theory	Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark
												External	Internal				
01	4CT01	Engineering Mathematics II	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
02	4FT02	Food Technology ó I	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	4PT02	Pulp & Paper Technology I	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	4OT02	Oil & Paint Technology ó I	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	4PC02	Petrochemical Technology ó I	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
03	4CT03	Machine Design & Drawing	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
04	4CT04	Material Science & Engineering	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
05	4CT05	Fluid Flow Operation	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
06	4ES06	Environmental Studies	2	-	-	2	2	3	80	20	100	40	-	-	-	-	
		PRACTICALS		-													
07	4FT07	Food Technology ó I	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	4PT07	Pulp & Paper Technology I	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	4OT07	Oil & Paint Technology ó I	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	4PC07	Petrochemical Technology ó I	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
08	4CT08	Machine Design & Drawing	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
09	4CT09	Material Science & Engineering	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
10	4CT010	Fluid Flow Operation	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
		Total	17	-	8	25	21				600				200		
													Total - 800				

Note – Environmental Science as per Direction No. 20/2021.

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester. V B.Tech.

Appendix – A

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme								
			Hours/week					Theory					Practical			
			Theory	Lecture	Tutorial	P/D	Total Hours /week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total
												External	Internal			
01	5CT01	Heat Transfer	3	1	-	4	4	3	80	20	100	40	-	-	-	-
02	5CT02	Professional Elective I	3	-	-	3	3	3	80	20	100	40	-	-	-	-
03	5CT03	Chem.Engg. Thermodynamics	3	-	-	3	3	3	80	20	100	40	-	-	-	-
04	5FT04	Sp.Tech (II)-Food Tech	3	-	-	3	4	3	80	20	100	40	-	-	-	-
	5PT04	Pulp & Paper Tech	3	-	-	3	4	3	80	20	100	40	-	-	-	-
	5OT04	Oil & Paint Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-
	5PC04	Petro Chem Tech.	3	-	-	3	3	3	80	20	100	40	-	-	-	-
05	5CT05	Open Elective . I	3	-	-	3	3	3	80	20	100	40	-	-	-	-
		PRACTICALS														
06	5CT06	Heat Transfer	-	-	2	2	1	-	-	-	-	-	25	25	50	25
07	5CT07	Professional Elective I	-	-	2	2	1	-	-	-	-	-	25	25	50	25
08	5CT08	Chem.Engg. Thermodynamics	-	-	2	2	1	-	-	-	-	-	25	25	50	25
09	5FT09	Sp.Tech (II)-Food Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25
	5PT09	Pulp & Paper Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25
	5OT09	Oil & Paint Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25
	5PC09	Petro Chem Tech.	-	-	2	2	1	-	-	-	-	-	25	25	50	25
			-	-				-	-	-	-					
		Total	15	1	8	24	20				500				200	
Total - 700																

Note- An orientation program of 15 hours duration/ MOOC course on Indian Constitution to be offered to the students during the 5th semester

Open elective I- 1) Economics & Management 2) Environmental impact, risk assessment and management 3) Data Analysis& optimization

Professional Elective I -1) Mechanical Operation 2) Interfacial Engineering 3)Sustainability Engineering

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester. VI B.Tech.

Appendix - A

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Theory	Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark
												External	Internal				
01	6CT01	Professional Elective II	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
02	6CT02	Computer Programming & Application	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
03	6CT03	Instrumentation & Control	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
04	6FT04	Sp.Tech (III)-Food Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	6PT04	Pulp & Paper Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	6OT04	Oil & Paint Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	6PC04	Petro Chem Tech.	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
05	6CT05	Open Elective . II	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
		PRACTICALS															
06	6CT06	Professional Elective II	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
07	6CT07	Computer Programming & Application	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
08	6CT08	Instrumentation & Control	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
09	6CT09	Minor Project/Skill/Innovation Lab	-	-	2	2	2	-	-	-	-	-	25	25	50	25	
		Total	15	5	8	28	20				500				200		
Total - 700																	

Orientation Program / MOOC Courses of 15 hours duration on 'Indian Traditional Knowledge' to be offered to the students during the Sixth Semester

Open elective II- 1) Chemical Technology 2) Introduction to membrane technology 3) Renewable energy resources

Professional Elective II- 1) Process Equipment Design and Drawing 2) Nano Science and Technology 3) Biofuel

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester.VII B.Tech.

Appendix - A

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory					Practical				
			Theory	Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark
												External	Internal				
01	7CT01	Mass Transfer	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
02	7CT02	Chemical Reaction Engineering. I	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
03	7FT03	Sp.Tech (IV)- Food Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7PT03	Pulp & Paper Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7OT03	Oil & Paint Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7PC03	Petro Chem Tech.	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
04	7CT04	Professional Elective 6 III	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
05	7FT05	Sp.Tech (V) : Food Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7PT05	Pulp & Paper Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7OT05	Oil & Paint Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	7PC05	Petro Chem Tech.	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
		PRACTICALS															
06	7CT06	Mass Transfer	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
07	7CT07	Chemical Reaction Engineering. I	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
08	7FT08	Sp.Tech (IV)- Food Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	7PT08	Pulp & Paper Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	7OT08	Oil & Paint Tech	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
	7PC08	Petro Chem Tech.	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
09	7CT09	Professional Elective 6 III	-	-	2	2	1	-	-	-	-	-	25	25	50	25	
10	7CT10	Project and Seminar	-	-	8	8	4	-	-	-	-	-	-	50	50	25	
			-	-				-	-	-	-	-					
		Total	15	-	16	31	23				500				250		
													Total - 750				

Professional elective III- 1) Corrosion Engineering, 2) Polymer Science & Engineering 3) Manmade fiber technology 4) Industrial Waste Treatment

Note- For Summer Industrial Internship 6 During the course of study from 3rd to 7th semester students are expected to undertake at list 2 industrial visits and undertake industry/ field training/ internship of at list 2 weeks duration during the vacation and students are expected to submit a report on the work done .

Four Year Degree Course in B.Tech (Chemical Technology) (Food, Pulp & Paper, Oil & Paint, Petrochemical Technology)

Semester.VIII B.Tech.

Appendix - 4

Sr.No.	Subject Code	Subject	Teaching Scheme					Examination Scheme									
			Hours/week					Theory				Practical					
			Lecture	Tutorial	P/D	Total Hours/week	Credits	Duration of Paper (Hr.)	Max. Marks Theory Paper	Max. Marks College Assessment	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Mark	
		External	Internal														
01	8FT01	Sp.Tech (VI) : Food Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	8PT01	Pulp & Paper Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	8OT01	Oil & Paint Tech	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
	8PC01	Petro Chem Tech.	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
02	8CT02	Chemical Reaction Engineering. II	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
03	8CT03	Plant design & Project Engg.	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
04	8CT04	Professional Elective 6 IV	3	-	-	3	3	3	80	20	100	40	-	-	-	-	
		PRACTICALS															
05	8FT05	Sp.Tech (VI) : Food Tech	-	-	4	4	2	-	-	-	-	-	25	25	50	25	
	8PT05	Pulp & Paper Tech	-	-	4	4	2	-	-	-	-	-	25	25	50	25	
	8OT05	Oil & Paint Tech	-	-	4	4	2	-	-	-	-	-	25	25	50	25	
	8PC05	Petro Chem Tech.	-	-	4	4	2	-	-	-	-	-	25	25	50	25	
06	8CT06	Project & Seminar-Food Tech	-	-	12	12	6	-	-	-	-	-	75	75	150	75	
		Total	12	-	16	28	20				400				200		
Total - 600																	

Professional Elective – IV : (1) Biochemical Engineering (2) Petroleum Processing Engineering (3) Fuel Technology

**L-Theory Lecture
T-Tutorial
P- Practical
D-Drawing /Design**
