

University School of Chemical Technology

Guru Gobind Singh Indraprastha University

Scheme of Examination

B.Tech/M.Tech Dual Degree(Chemical Engineering)

Scheme for B.Tech/M.Tech Dual Degree

Of Chemical Engineering

{1st to 12th Semester}

University School of Chemical Technology

Guru Gobind Singh Indraprastha University

Scheme of Examination **B.Tech/M.Tech Dual Degree(Chemical Engineering)**

L T P Credits
17 5 11 28

FIRST SEMESTER EXAMINATION

Code	Paper	L	T	P	Credits
<i>Theory Papers</i>					
BA-117	Organic Chemistry-I	3	1	0	4
BA-109	Mathematics-I	3	1	0	4
BA-111	Physics-I	2	1	0	3
HS-101	Communication Skills-I	2	1	0	3
HS-119*	Impact of Science & Technology on Society	1	0	0	1
IT-105	Introduction to Computers	3	0	0	3
IT-107	Electrical Science	3	1	0	4
<i>Practical/Viva Voce</i>					
BA-163	Organic Chemistry-I Lab	0	0	3	2
BA-153	Physics-I Lab	0	0	2	1
IT-155	Computer Lab	0	0	2	1
IT-157	Engineering Graphics-I	0	0	2	1
IT-159	Electrical Science Lab	0	0	2	1
Total		17	5	11	28

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15 7 10 27

SECOND SEMESTER EXAMINATION

Code	Paper	L	T	P	Credits
<i>Theory Papers</i>					
BA-106	Inorganic Chemistry	3	1	0	4
BA-108	Mathematics-II	3	1	0	4
BA-116	Physics-II	2	1	0	3
BA-112	Life Sciences	2	1	0	3
IT-104	Engineering Mechanics	3	1	0	4
HS-102	Communication Skills-II	1	2	0	3
HS-126*	Impact of Science & Technology on Society	1	0	0	1
<u>Practical/Viva Voce</u>					
BA-156	Physics-II Lab	0	0	2	1
BA-158	Life Sciences Lab	0	0	2	1
BA-160	Inorganic Chemistry Lab	0	0	4	2
IT-154	Engineering Graphics-II	0	0	2	1
Total		15	7	10	27

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THIRD SEMESTER EXAMINATION

Code No.	Paper	L	T	P	Credits
<i>Theory Papers</i>					
99211	Physical Chemistry	3	1	0	4
99213	Applied Mathematics III	3	1	0	4
14201	Chemical Process Calculations	3	1	0	4
14203	Fluid Mechanics	3	1	0	4
14205	Unit Operations-I	3	1	0	4
<i>Practical/Viva Voce</i>					
99261	Physical Chemistry Lab	0	0	3	2
14251	Unit Operation Lab-I	0	3	2	
14271	Workshop	0	0	3	2
15275	Computer Programming Lab	0	0	3	2
Total		15	5	12	28

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L	T	P	Credits
16	6	10	28

FOURTH SEMESTER EXAMINATION

Code No.	Paper	L	T	P	Credits
Theory Papers					
99212	Applied Mathematics- IV	3	1	0	4
99214	Material Science	3	1	0	4
99216	Physico Organic Chemistry	3	1	0	4
14202	Chem. Engg. Thermodynamics- I	2	1	0	3
14204	Unit Operations-II	3	1	0	4
14206	Heat Transfer-I	2	1	0	3
Practical/Viva Voce					
99262	Chemistry Lab	0	0	4	2
14252	Fluid Mechanics Lab	0	0	3	2
14254	Unit Operations Lab-II	0	0	3	2
Total		16	6	10	28

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L	T	P	Credits
16	5	6	25

FIFTH SEMESTER SCHEME

Code No.	Paper	L	T	P	Credits
<i>Theory Papers</i>					
14301	Chemical Engineering Thermodynamics II	2	1	0	3
14303	Chem. Reaction Engineering I	3	1	0	4
14305	Heat Transfer II	2	1	0	3
14307	Mass Transfer	3	1	0	4
14309	Process Control-I	3	1	0	4
14311	Chemical Process Industries-I	3	0	0	3
<i>Practical/Viva Voce</i>					
14351	Mass Transfer Lab	0	0	3	2
14353	Heat Transfer Lab	0	0	3	2
Total		16	5	6	25

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L	T	P	Credits
17	5	8	27

SIXTH SEMESTER SCHEME

Code No.	Paper	L	T	P	Credits
<i>Theory Papers</i>					
14302	Chemical Process Control II	3	1	0	4
14304	Chemical Reaction Engg II	3	1	0	4
14306	Computational Methods for Chemical Engineers	2	1	0	3
14308	Chemical Process Industries II	3	0	0	3
14310	Safety, Hazards and Environment	3	0	0	3
39312	Organization Behavior and Industrial Management	3	0	0	3
<i>Practical/Viva Voce</i>					
14352	Chemical Reaction Engg. Lab	0	0	3	2
14354	Process Control Lab	0	0	3	2
14356	Seminar	0	2	0	2
14358	Computational Lab	0	0	2	1
Total		17	5	8	27

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L T P Credit
14 4 11 25

SEVENTH SEMESTER SCHEME

Code No.	Paper	L	T	P	Credits
<i>Theory Papers</i>					
14401	Process Equipment Design	2	2	0	4
14303	CAD and Simulation	3	1	0	4
14405	Introduction to Biochemical Engg.	3	1	0	4
98411	Introduction to Economics	3	0	0	3
	Elective-I/IDS	3	0	0	3
<i>Practical/Viva Voce</i>					
14451	CAD & Simulation Lab	0	0	3	2
14453	Project Work I	0	0	8	4
14455	Industrial Training/ Visit Report	-	-	-	1
Total		14	4	11	25

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L	T	P	Credits
12	1	18	22

EIGHTH SEMESTER SCHEME

Code	Paper	L	T	P	Credits
<i>Theory Papers</i>					
14402	Chemical Process Engineering	3	1	0	4
14420	Petroleum Engineering/				
14422	Polymer Engineering/				
14424	Biomass for Energy & Chemicals	3	0	0	3
---	Elective -III/ IDS	3	0	0	3
98412	Project writing	3	0	0	3
<i>Practical/Viva Voce</i>					
14452	Project Work-II	0	0	18	9
Total		12	1	18	22

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15 3 6 24

NINTH SEMESTER EXAMINATION

Code	Paper	L	T	P	Credits
<i>Theory Papers</i>					
Core Courses					
14501	Advanced Transport Phenomena	3	1	0	4
14503	Advanced Separation Technology	3	1	0	4
14505	Advanced System Engineering	3	1	0	4
<i>Elective Course</i>					
14511	Design of Experiment and Analysis of Engineering Data	3	0	0	3
14513	Environmental Engineering And Waste Management	3	0	0	3
14515	Powder Processing & Technology	3	0	0	3
14517	Chemical Process Quantitative Risk Analysis	3	0	0	3
<i>Practical/Viva Voce</i>					
14553	Advance Control Lab	0	0	6	3
14555	Advance Computational Lab	0	0	6	3
Total		15	3	12	24

Note: Student can select **two electives** either offered by the department from the above list or from the list of intradepartmental electives.

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L	T	P	Credits
14	2	8	24

TENTH SEMESTER EXAMINATION

Code	Paper	L	T	P	Credits
<i>Theory Papers</i>					
Core Courses					
CT-502	Computer Aided Process Design	3	1	0	4
CT-504	Advanced Chemical Engineering Thermodynamics	2	1	0	3
<i>Elective Courses</i>					
CT-512	Alternative Energy Sources	3	0	0	3
CT-514	Process plant Utilities	3	0	0	3
CT-516	Catalysis and Reactor Design	3	0	0	3
CT-518	Membrane Science & Technology	3	0	0	3
CT-520	Design & Analysis of Bio-Reactors	3	0	0	3
<u>Practical/Viva Voce</u>					
CT-554	Minor Project	0	0	16	8
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Total		14	2	16	24

Note: Student can select **three electives** either offered by the department from the above list or from the list of intradepartmental electives.

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L	T	P	Credits
6	0	18	24

ELEVENTH SEMESTER EXAMINATION

Code No.	Paper	L	T	P	Credits
<i>Elective Courses</i>					
CT-611	Advanced Petroleum Refining	3	0	0	3
CT-613	Industrial Pollution Engineering	3	0	0	3
CT-615	Introduction to Nanotechnology	3	0	0	3
CT-651	Major Project Part-I	0	0	30	15
CT-653	Project Seminar *	0	0	06	3
Total		6	0	36	24

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Note: Student can select **two electives** either offered by the department from the above list or from the list of intradepartmental electives.

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		L	T	P	Credits
		0	0	18	18
TWELFTH SEMESTER EXAMINATION					
Code	Paper	L	T	P	Credits
CT-652	Major Project Part-II	0	0	30	15
CT-654	Project Seminar *	0	0	06	3
Total		0	0	36	18

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