PEOPLE'S UNIVERSITY, BHOPAL
Faculty of Engineering (Choice Based Credit System)
Course Details and Scheme of Examination
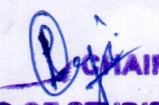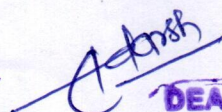*(w.e.f. from Academic Session 2023-24 onwards)*

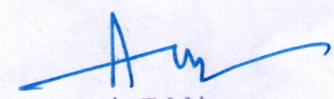**Programme: Bachelor of Technology   Set -C   Branch: Biotechnology**

FIRST YEAR (I SEMESTER)

Course Code	Name of the Courses	Course Mode (B/C/E)	Theory End Sem	Theory MST/Attendance Assignment	Theory Internal Exam	Practical End Sem	Practical Lab Performance/ Attendance/Quiz	Practical Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
CBBT-101	Remedial Mathematics-I	B	70	30	-	-	-	-	100	3	1	0	04	F
CBTE-102	Engineering Physics	B	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-103	Electrical and Electronics Instrumentations	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-104	Fundamentals of Plant Science	C	70	30	-	35	15	-	150	3	1	2	05	F
CBTE-105	Programming for Problem Solving	E	35	15	-	35	15	-	100	1	0	2	02	V
CBTE-106	Sanskrit / French / German	E	35	15	-	-	-	-	50	2	0	0	02	V
CBTE-107	NCC-I	E	35	15	-	35	15	-	100	1	0	2	02	V
CBTE-108	Soft Skills	B	-	-	-	-	-	50	50	0	0	2	01	F
CBTE-109	Workshop Practice	C	-	-	-	70	30	-	100	0	0	2	01	F
CBTE-110	Physical Education & Yoga	B	-	-	-	-	-	50	50	0	0	2	00	F
CBTE-111	NSS-I/NSO-I	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE-112	Music Vocal- I / Music Instruments-I	E	-	-	-	-	-	50	50	0	0	2	01	V
Total			**385**	**165**	**-**	**245**	**105**	**200**	**1100**	**16**	**04**	**20**	**29**	

Note: Students must earn 24 credits to complete this semester.

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Faculty of Engineering (Choice Based Credit System)

Course Details and Scheme of Examination

(w.e.f. from Academic Session 2023-24 onwards)

PEOPLE'S UNIVERSITY

Programme: Bachelor of Technology   Set -C   Branch: Biotechnology

FIRST YEAR (II SEMESTER)

Course Code	Name of the Courses	Course Mode (B/C/E)	Theory End Sem	Theory MST/Attendance Assignment	Theory Internal Exam	Practical End Sem	Practical Lab Performance/ Attendance/Quiz	Practical Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
CBBT-201	Remedial Mathematics-II	B	70	30	-	-	-	-	100	3	1	0	04	F
CBTE-202	Engineering Chemistry	B	70	30	-	35	15	-	150	3	0	2	04	F
CBTE-203	Communication Skills	B	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-204	Fundamentals of Animal Science	C	70	30	-	-	-	-	100	3	1	0	04	F
CBTE-205	Computer Fundamentals	C	70	30	-	35	15	-	150	3	0	2	04	F
CBTE-206	Basic Civil and Mechanical Engineering	E	70	30	-	35	15	-	150	3	0	2	04	V
CBTE-207	NCC-II	E	35	15	-	35	15	-	100	1	0	2	02	V
CBTE-208	Introduction to Artificial Intelligence	E	35	15	-	-	-	-	50	2	0	0	02	V
CBTE-209	Biology for Engineers	E	35	15	-	-	-	-	50	2	0	0	02	V
CBTE-210	Disaster Management and Safety	B	-	-	25	-	-	-	25	2	0	0	00	F
CBTE-211	Life Skills	B	-	-	25	-	-	-	25	0	0	2	00	F
CBTE-212	Fine Arts-I	E						50	50	0	0	2	01	V
Total			**525**	**225**	**50**	**175**	**75**	**50**	**1100**	**25**	**03**	**14**	**32**	
NCC-III camp		E	To be completed after the second semester. Its evaluation/credit to be added in the THIRD SEMESTER											

Note: Students must earn 24 credits to complete this semester.

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Programme: Bachelor of Technology　　　　**Branch: Biotechnology**

Course Code	Name of the Courses	Course Mode (B/C/E)	Theory End Sem	Theory MST/Attendance Assignment	Theory Internal Exam	Practical End Sem	Practical Lab Performance/ Attendance/Quiz	Practical Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
SECOND YEAR (III SEMESTER)													
CBBT-301	Introduction to Biotechnology	C	70	30	-	-	-	-	100	3	1	0	04	F
CBBT-302	Material Sciences & Biomaterials	C	70	30	-	-	-	-	100	3	1	0	04	F
CBBT-303	Cell Biology	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-304	Biochemistry	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-305	Microbiology	E	35	15	-	35	15	-	100	1	0	2	02	V
CBBT -306	Material Sciences & Biomaterials -Lab	C	-	-	-	-	-	50	50	0	0	2	01	F
CBTE -307	*NCC-III	E	35	15	-	35	15	-	100	1	0	12	07	V
CBTE -308	Introduction to Internet of Things	E	70	30	-	35	15	-	150	2	0	2	03	V
CBTE -309	Quantitative Aptitude & Logical Reasoning	E	-	-	50	-	-	-	50	1	0	0	01	V
CBTE-310	NSS-II/NSO-II	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE-311	Music Vocal- II/ Music Instruments-II	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE-312	Social Engineering	B	-	-	50	-	-	-	50	1	0	0	00	F
	Total		**420**	**180**	**100**	**175**	**75**	**150**	**1100**	**18**	**04**	**26**	**34**	

Note: Students must earn 26 credits to complete this semester. (*For NCC-III 05 credits will be allotted after successful completion of camp.)

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Faculty of Engineering (Choice Based Credit System)

Course Details and Scheme of Examination
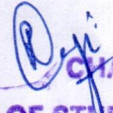
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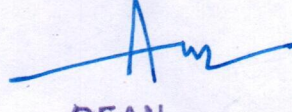**Programme: Bachelor of Technology**   **Branch: Biotechnology**

SECOND YEAR (IV SEMESTER)

Course Code	Name of the Courses	Course Mode (B/C/E)	Theory - End Sem	Theory - MST/Attendance Assignment	Theory - Internal Exam	Practical - End Sem	Practical - Lab Performance/ Attendance/Quiz	Practical - Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
CBTE-401	Entrepreneurship and IPR	C	70	30	-	-	-	-	100	3	0	0	03	F
CBBT-402	Immunology and Immunotechnology	C	70	30	-	35	15	-	150	3	0	2	04	F
CBBT-403	Bioenergetics & Metabolism	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-404	Enzymology and Enzyme technology	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-405	Pharmaceutics	C	35	15	-	35	15	-	100	2	0	2	03	F
CBBT-406	Bioinstrumentation	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE- 407	NCC -IV	E	35	15	-	35	15	-	100	2	0	2	03	V
CBTE - 408	Research Methodology	E	-	-	50	-	-	-	50	1	0	0	01	V
CBTE - 409	Environmental Science	B	-	-	100	-	-	-	100	1	0	0	00	F
CBTE - 410	Massive Open Online Courses (MOOCs)-I	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE - 411	Sociology	E	-	-	50	-	-	-	50	1	0	0	01	V
CBTE- 412	Fine Arts-II	E	-	-	-	-	-	50	50	0	0	2	01	V
Total			350	150	200	175	75	150	1100	19	02	16	28	
NCC V- Camp/ Industrial Training		E/C	To be completed after the fourth semester. Its evaluation/credit to be added in FIFTH SEMESTER											

Note: Students must earn 24 credits to complete this semester.

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PEOPLE'S UNIVERSITY, BHOPAL
Faculty of Engineering (Choice Based Credit System)
Course Details and Scheme of Examination
(w.e.f. from Academic Session 2023-24 onwards)

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Programme: Bachelor of Technology　　　　**Branch: Biotechnology**

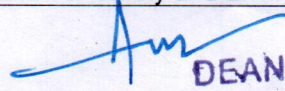| Course Code	Name of the Courses	Course Mode (B/C/E)	Theory End Sem	Theory MST/Attendance Assignment	Theory Internal Exam	Practical End Sem	Practical Lab Performance/ Attendance/Quiz	Practical Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
Refer Table -I	Open Elective Course	E	70	30	-	-	-	-	100	3	0	0	03	F
CBBT-502	Recombinant DNA Technology	C	70	30	-	-	-	-	100	3	0	0	03	F
CBBT-503	Plant Biotechnology	C	70	30	-	-	-	-	100	3	1	0	04	F
CBBT-504	Molecular Biology	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-505	Genetics	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-506	Plant Tissue culture Techniques-Lab	E	70	30	-	35	15	-	150	3	0	2	04	V
CBTE-507	*NCC-V	E	35	15	-	35	15	-	100	1	0	12	07	V
CBTE-508	Accounting and Finance Management	E	35	15	-	-	-	-	50	2	0	0	02	V
CBBT-509	Solid State fermentation	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE-510	Industrial Training	C	-	-	-	100	-	-	100	0	0	2	01	F
CBTE-511	Indian Constitution	B	-	-	50	-	-	-	50	1	0	0	00	F
Total			**490**	**210**	**50**	**240**	**60**	**50**	**1100**	**22**	**03**	**22**	**35**	

Note: Students must earn 28 credits to complete this semester. (For *NCC-V 05 credit will be allotted after successful completion of camp.)

Table – I

Course Code	Name of Open Elective Course	Course Code	Name of Open Elective Course
CBTE-5101	Gender Equality	CBTE-5103	Ethical Hacking and Cyber Security
CBTE-5102	Human Health & Nutrition	CBTE-5104	Industrial Safety and Environment

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Faculty of Engineering (Choice Based Credit System)

Course Details and Scheme of Examination

(w.e.f. from Academic Session 2023-24 onwards)

PEOPLE'S UNIVERSITY

Programme: Bachelor of Technology　　　　**Branch: Biotechnology**

THIRD YEAR (VI SEMESTER)

Course Code	Name of the Courses	Course Mode (B/C/E)	Theory End Sem	Theory MST/Attendance Assignment	Theory Internal Exam	Practical End Sem	Practical Lab Performance/ Attendance/Quiz	Practical Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
Refer Table -II	Department Elective -I	E	70	30	-	-	-	-	100	3	0	0	03	F
CBBT-602	Biostatistics and Bioinformatics	C	70	30	-	-	-	-	100	3	1	0	04	F
CBBT-603	Industrial Biotechnology & Bioanalytical Techniques	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-604	Genomics & Proteomics	C	70	30	-	35	15	-	150	3	1	2	05	F
CBBT-605	Animal Biotechnology	E	70	30	-	35	15	-	150	2	0	2	03	V
CBTE-606	Human Resource Management	E	35	15	-	-	-	-	50	2	0	0	02	V
CBTE-607	NCC - VI	E	35	15	-	35	15	-	100	2	0	2	03	V
CBTE-608	Company and Compensation law	E	35	15	-	-	-	-	50	2	0	0	02	V
CBBT-609	Animal Tissue Culture-Lab	E	-	-	-	-	-	50	50	0	0	2	01	V
CBTE-610	Universal Human Ethics	B	-	50	50	-	-	-	100	2	1	0	03	F
Total			**455**	**245**	**50**	**140**	**60**	**50**	**1000**	**22**	**04**	**10**	**31**	

Note: Students must earn 24 credits to complete this semester.

Table –II

Course Code	Name of Department Elective Course	Course Code	Name of Department Elective Course
CBBT-6101	Artificial Intelligence and Expert Systems	CBBT-6103	Protein Engineering Applications
CBBT-6102	Pharmaceutical Biotechnology	CBBT-6104	Food Biotechnology

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PEOPLE'S UNIVERSITY, BHOPAL

Faculty of Engineering (Choice Based Credit System)

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Programme: Bachelor of Technology   **Branch: Biotechnology**

Course Code	Name of the Courses	Course Mode (B/C/E)	End Sem	MST/Attendance Assignment	Internal Exam	End Sem	Lab Performance/ Attendance/Quiz	Internal Exam	Total Marks	L	T	P	Total Credits	Component (F/V)
			Theory			**Practical**				**Teaching Contact Hours**				
Refer Table -III	Department Elective -II	E	70	30	-	-	-	-	**100**	3	0	0	**03**	F
Refer Table -III	Department Elective -III	E	70	30	-	-	-	-	**100**	3	0	0	**03**	F
CBBT-703	Environmental Biotechnology	C	70	30	-	-	-	-	**100**	3	0	0	**03**	F
CBBT-704	Bioprocess and Downstream processing	C	70	30	-	35	15	-	**150**	3	0	2	**04**	F
CBBT-705	Computation Biology	C	70	30	-	35	15	-	**150**	3	1	2	**05**	F
CBBT-706	Project Management	C	70	30	-	-	-	-	**100**	3	1	0	**04**	F
CBBT-707	Innovative Project Lab	C	-	-	-	-	-	50	**50**	0	0	2	**01**	F
CBTE-708	Introduction to MATLAB	E	-	-	-	-	-	50	**50**	0	0	2	**01**	V
CBTE-709	Psychology	E	-	-	50	-	-	-	**50**	1	0	0	**01**	V
CBTE-710	Massive Open Online Courses (MOOCs) - II	E	-	-	-	-	-	50	**50**	0	0	2	**01**	V
CBTE-711	Professional Ethics and Proficiency	B	-	-	-	35	15	-	**50**	0	0	2	**01**	F
CBTE-712	GD/Seminar	E	-	-	-	-	-	50	**50**	0	0	2	**01**	V
Total			**420**	**180**	**50**	**105**	**45**	**200**	**1000**	**19**	**02**	**14**	**28**	

FOURTH YEAR (VII SEMESTER)

Note: Students must earn 26 credits to complete this semester.

Table –III

Course Code	Name of Department Elective Course - II	Course Code	Name of Department Elective Course-III
CBBT-7101	Novel Drug Delivery system	CBBT-7201	Medical Biotechnology
CBBT-7102	Stem Cell & Tissue Engineering	CBBT-7202	Gene Therapy
CBBT-7103	Industrial Waste Management	CBBT-7203	Biomining
CBBT-7104	Plant Microbe Interaction	CBBT-7204	Industrial Phytochemical

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Faculty of Engineering (Choice Based Credit System)

Course Details and Scheme of Examination

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Programme: Bachelor of Technology   **Branch: Biotechnology**

FOURTH YEAR (VIII SEMESTER)

Course Code	Name of the Course	Course Mode (B/C/E)	Theory			Practical			Total Marks	Teaching Contact Hours			Total Credits	Component (F/V)
			End Sem	MST/Attendance Assignment	Internal Exam	End Sem	Lab Performance/ Attendance/Quiz	Internal Exam		L	T	P		
CBBT-801	Project Internship and Viva-Voce	C	-	-	-	300	200	-	500	0	0	20	10	F
Total			-	-	-	300	200	-	500	0	0	20	10	

Note: Students must earn 10 credits to complete this semester.

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