GHraisoni COLLEGE Engineering and Management Nagpur

UG Scheme-2026 (NEP-2020)
B. Tech. (Data Science Engineering)

Course Code	Name of Course	Course Category	Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hours per semester)	Term Work (TW) and Self Learning (SL) (TW+ SL)(in hours per semester)	Total no.of hours per semester	Credits	Evaluation Scheme					
									Theory			Practical		Total Marks
			L	T	P				TAE	CAE	ESE	INT	EXT	
SEMESTER-I (NCrf Level 4.5)														
BSBTSH1TT102DS	Environmental Chemistry	BSC5	15	--	--	15	30	1	10	15	50	--	--	75
BSBTSH1PI102DS	Environmental Chemistry	BSC5	--	--	30	--	30	1	--	--	--	25	--	25
BSBTSH3TT103DS	Matrices and Differential Calculus	BSC1	30	15	--	45	90	3	10	15	50	--	--	75
BSBTSH3TT105CE	Linear Algebra and Statistics	BSC4	30	15	--	45	90	3	10	15	50	--	--	75
CCBTSH2PT10XDS (0X=26,69, 70)	Liberal Learning Courses-I	CC1	--	--	60	--	60	2	--	--	--	25	25	50
ESBTEL3TT101DS	Basic Electrical Engineering	ESC1	45	--	--	45	90	3	10	15	50	--	--	75
ESBTEL1PI101DS	Basic Electrical Engineering	ESC1	--	--	30	--	30	1	--	--	--	25	--	25
ESBTET3TT101DS	Digital Logic Design	ESC2	45	--	--	45	90	3	10	15	50	--	--	75
ESBTET1PI101DS	Digital Logic Design	ESC2	--	--	30	--	30	1	--	--	--	25	--	25
VSBTXX1TI10XDS	Elective -I : Vocational and Skill Enhancement	VSEC1	15	--	--	15	30	1	10	15	--	--	--	25
VSBTXX1PI10XDS (0X=02,03,04)	Elective -I : Vocational and Skill Enhancement	VSEC1	--	--	30	--	30	1	--	--	--	25	--	25
TOTAL			180	30	180	210	600	20	60	90	250	125	25	550

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									Theory			Practical		Total Marks
			L	T	P				TAE	CAE	ESE	INT	EXT	
SEMESTER-II (NCrf Level 4.5)														
BSBTSH2TT201DS	Engineering Physics	BSC2	15	15	--	30	60	2	10	15	50	--	--	75
BSBTSH1PI201DS	Engineering Physics	BSC2	--	--	30	--	30	1	--	--	--	25	--	25
BSBTSH3TT204DS	Integral Calculus and Differential Equations	BSC3	30	15	--	45	90	3	10	15	50	-	--	75
AEBTSH1TI208DS	Communication Skills	AEC1	15	--	--	15	30	1	10	15	--	--	--	25
AEBTSH1PI208DS	Communication Skills	AEC1	--	--	30	--	30	1	--	--	--	25	--	25
IKBTSH2TT20XDS(0X=09 ,10,11,17, 18,19,20)	Elective: Indian Knowledge System	IKS	30	--	-	30	60	2	10	15	50	--	--	75
CCBTSH2PT20XDS(0X=71 ,72, 73)	Liberal Learning Courses-II	CC2	--	--	60	--	60	2	-	-	-	25	25	50
ESBTIT3TT202DS	Programming for Problem Solving	ESC3	45	--	--	45	90	3	10	15	50	--	--	75
ESBTIT1PI202DS	Programming for Problem Solving	ESC3	--	--	30	--	30	1	----	--	----	25	--	25
BTDS1TT201	Introduction to Data Science	PCC1	15	--	--	15	30	1	10	15	50	--	--	75
BTDS1PI201	Introduction to Data Science	PCC1	--	--	30	--	30	1	--	--	--	25	--	25
VSBTXX1TI20XDS	Elective –II: Vocational and Skill Enhancement	VSEC2	15	--	--	15	30	1	10	15	--	--	--	25
VSBTXX1PI20XDS	Elective –II: Vocational and Skill Enhancement	VSEC2	--	--	30	--	30	1	--	--	--	25	--	25
TOTAL			165	30	210	195	600	20	70	105	250	150	25	600

ELECTIVES

Applied Science and Humanities Board

23BTSHL10XAI -Elective : Indian Knowledge System -

Course	Course Code (L)	Course Code(P)
Elective: IKS- Concepts and Applications inEngineering	**IKBTSH2TT109AI/CY/IT/CV/ET** **IKBTSH2TT209CE/DS/ME/EL**	Not Applicable
Elective: IKS- Social History of Medicine In Colonial India	**IKBTSH2TT110AI/CY/IT/CV/ET** **IKBTSH2TT210 CE/DS/ME/EL**	Not Applicable
Elective: IKS- Modern IndianArchitecture	**IKBTSH2TT111AI/CY/IT/CV/ET** **IKBTSH2TT211 CE/DS/ME/EL**	Not Applicable
Elective: IKS- Introduction to Ancient Indian Technology	**IKBTSH2TT117AI/CY/IT/CV/ET** **IKBTSH2TT217 CE/DS/ME/EL**	Not Applicable
Elective: IKS- Introduction To Modern Indian Drama	**IKBTSH2TT118AI/CY/IT/CV/ET** **IKBTSH2TT218 CE/DS/ME/EL**	Not Applicable
Elective: IKS- Introduction To Indian Art - An Appreciation	**IKBTSH2TT119AI/CY/IT/CV/ET** **IKBTSH2TT219 CE/DS/ME/EL**	Not Applicable
Elective: IKS- Folk And Minor Art In India	**IKBTSH2TT120 AI/CY/IT/CV/ET** **IKBTSH2TT220 CE/DS/ME/EL**	Not Applicable

Liberal learning courses BTSH2PE10X or BTSH2PE20X

Course	Course Code (L)	Course Code(P)
Liberal learning course-1 Integrated Personality Development Course 1	Not Applicable	**CCBTSH2PT112** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-1 Government Missions (Study of any 2)	Not Applicable	**CCBTSH2PT126** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-1 Study of India's Top 2 Problems	Not Applicable	**CCBTSH2PT169** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-1 Study of one of the identified books	Not Applicable	**CCBTSH2PT170** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Integrated Personality Development Course 2	Not Applicable	**CCBTSH2PT213** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Innovation and Creativity	Not Applicable	**CCBTSH2PT271** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Sports-Representation of Institute at University level/Inter College Level and above in any sport	Not Applicable	**CCBTSH2PT272** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Making short film/Photography	Not Applicable	**CCBTSH2PT273** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Foreign language (German)	Not Applicable	**CCBTSH2PT276** **AI/CE/DS/CY/IT/CV/ME/EL/ET**
Liberal learning course-2 Foreign language (Japanese)	Not Applicable	**CCBTSH2PT277** **AI/CE/DS/CY/IT/CV/ME/EL/ET**

AI Board

Course	Course Code (L)	Course Code(P)
Elective -I : Vocational and Skill Enhancement - Data Visualization	VSBTAI1TI102 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI102 **CE/DS/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement	VSBTAI1TI103 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI103 **CE/DS/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement-	VSBTAI1TI104 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI104 **CE/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement- Artificial Intelligence with Python	VSBTAI1TI205 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI205 **CE/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	VSBTAI1TI206 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI206 **CE/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	VSBTAI1TI207 **CE/DS/CY/IT/CV/ME/EL/ET**	VSBTAI1PI207 **CE/DS/CY/IT/CV/ME/EL/ET**

CSE Board

Course	Course Code (L)	Course Code(P)
Elective -I : Vocational and Skill Enhancement - Computer Programming	**VSBTCE1TI102 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI102 AI/DS/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement -	**VSBTCE1TI103 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI103 AI/DS/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement -	**VSBTCE1TI104 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI104 AI/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement- Foundation of Data Analytics	**VSBTCE1TI205 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI205 AI/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement-	**VSBTCE1TI206 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI206 AI/DS/CY/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement-	**VSBTCE1TI207 AI/DS/CY/IT/CV/ME/EL/ET**	**VSBTCE1PI207 AI/DS/CY/IT/CV/ME/EL/ET**

IT Board

Course	Course Code (L)	Course Code(P)
Elective -I : Vocational and Skill Enhancement- Introduction to Linux	**VSBTIT1TI103 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI103 AI/CE/DS/CY/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement-	**VSBTIT1TI104 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI104 AI/CE/DS/CY/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement-	**VSBTIT1TI105 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI105 AI/CE/DS/CY/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	**VSBTIT1TI206 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI206 AI/CE/DS/CY/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	**VSBTIT1TI207 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI207 AI/CE/DS/CY/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	**VSBTIT1TI208 AI/CE/DS/CY/CV/ME/EL/ET**	**VSBTIT1PI208 AI/CE/DS/CY/CV/ME/EL/ET**

DS Board

Course	Course Code (L)	Course Code(P)
Elective -I : Vocational and Skill Enhancement- Data Science Tools	**VSBTDS1TI102 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI102 AI/CE/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement-	**VSBTDS1TI103 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI103 AI/CE/CY/IT/CV/ME/EL/ET**
Elective -I : Vocational and Skill Enhancement-	**VSBTDS1TI104 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI104 AI/CE/CY/IT/CV/ME/EL/ET**
Elective -II : Vocational and Skill Enhancement- Programming in C	**VSBTDS1TI205 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI205 AI/CE/CY/IT/CV/ME/EL/ET**
Elective -II : Vocational and Skill Enhancement-	**VSBTDS1TI206 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI206 AI/CE/CY/IT/CV/ME/EL/ET**
Elective -II : Vocational and Skill Enhancement-	**VSBTDS1TI207 AI/CE/CY/IT/CV/ME/EL/ET**	**VSBTDS1PI207 AI/CE/CY/IT/CV/ME/EL/ET**

CYB Board

Course	Course Code (L)	Course Code(P)
Elective -I :Vocational and Skill Enhancement -	**VSBTCY1TI102 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI102 AI/CE/DS/IT/CV/ME/EL/ET**
Elective -I :Vocational and Skill Enhancement-	**VSBTCY1TI103 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI103 AI/CE/DS/IT/CV/ME/EL/ET**
Elective -I :Vocational and Skill Enhancement-	**VSBTCY1TI104 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI104 AI/CE/DS/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement- Principle of Information Security	**VSBTCY1TI205 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI205 AI/CE/DS/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement	**VSBTCY1TI206 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI206 AI/CE/DS/IT/CV/ME/EL/ET**
Elective –II: Vocational and Skill Enhancement-	**VSBTCY1TI207 AI/CE/DS/IT/CV/ME/EL/ET**	**VSBTCY1PI207 AI/CE/DS/IT/CV/ME/EL/ET**