LIST OF MINORS

1.	AEROSPACE ENGINEERING			
		MINOR		Template No.**AE-5**
		Title	**AEROSPACE ENGINEEIRNG**	
		C O U R S E S		
			Compulsory Course:	
			AE201A [05]	
			Any **THREE** from:	
			AE211A [11]	
			AE321A [09]	
			AE331A [09]	
			AE650A [09] / AE753A [09] / AE341 [11]	
			32-36	

LIST OF MINORS

2.	BIOLOGICAL SCIENCES AND BIO-ENGINEERING	MINOR	Template No. BSBE-5
		Title TISSUE ENGINEERING	
		COURSES BSE211A [09]	
		BSE411A [11]	
		BSE421A [11]	
		-	
		31	

LIST OF MINORS

3.	CHEMICAL ENGINEERING	MINOR		Template No. CHE-5	
		Title	CHEMICAL ENGINEERING		
		C O U R S E S	CHE251A [09]		
			CHE261A [09]		
			CHE313A [09]		
			CHE331A [09]		
			-		
			36		

LIST OF MINORS

4.	CHEMISTRY

MINOR			Template No. CHM-5
Title	PHYSICAL CHEMISTRY*	INORGANIC CHEMISTRY	ORGANIC CHEMISTRY
C O U R S E S	Compulsory Courses: CHM321A [09] CHM322A [09] Any TWO from: CHM621A [09] CHM622A [09] CHM626A [09] CHM636A [09] CHM637A [09] CHM650A [09] CHM664A [09] CHM685A [09] CHM689A [09] CHM695A [09] CHM696A [09] CHM699A [09]	Compulsory Courses: CHM345A [09] CHM342A [09] Any TWO from: CHM616A [09] CHM631A [09] CHM646A [09] CHM647A [09] CHM651A [09] CHM654A [09] CHM668A [09] CHM691A [09]	Compulsory Courses: CHM201A [09]** CHM202A [09] CHM303A [09] CHM402A [09] –
	36	36	36

REMARKS:
1) *CSO202A is a pre-requisite for Minor in Physical Chemistry
2) **EXCEPTION: CHM201A to be done by Y13 and onward batches. Y11 and Y12 batch shall do CHM203A. Course title, content and credits are same. Just the course number has been changed.

LIST OF MINORS

5.	CIVIL ENGINEERING	MINOR		Template No. **CE-5**	Remark:
		Title	Infrastructure Engineering and Management		1. Minor in Infrastructure Engineering and Management under Civil Engineering department has been discontinued.
		C O U R S E S	CE241 [09] [odd semester]		
			CE640 [09] [odd semester]		
			CE641A [05] [odd semester]		
			CE643A [05] or CE644A [05] [even semester]		
			CE667A [05] [even semester]		

LIST OF MINORS

6.	COMPUTER SCIENCE & ENGINEERING		MINOR				Template No. CSE-4
			ALGORITHMS	COMPUTER SYSTEMS	THEORY OF COMPUTING	ARTIFICIAL INTELLIGENCE@	MACHINE LEARNING & APPLICATIONS
			COMPULSORY COURSE(S):	COMPULSORY COURSE(S):	COMPULSORY COURSE(S):	COMPULSORY COURSE(S):	COMPULSORY COURSE(S):
			CS210A [12]/ ESO207A[12]	CS210A [12]/ ESO207A[12]	CS210A [12]/ ESO207A[12]	CS210A [12/ ESO207A [12]	CS210A [12/ ESO207A [12]
			CS345A [09]		CS340A [09]	CS365A [09]	CS771A [09]
			And, ONE from:	And, TWO from:	And, ONE from:	And, ONE from:	And, ONE from:
			CS645A [09]	CS220A [12]	CS640A [09]	CS671A [09]	CS365A [09]
			CS646A [09]	CS330A [12]	CS641A [09]	CS672A [09]	CS671A [09]
			CS647A [09]	CS315A [09]	CS642A [09]	CS674A [09]	CS676A [09]
			CS648A [09]	CS335A [12]	CS643A [09]	CS675A [09]	CS678A [09]
			CS663A [09]	CS422A [09]	CS644A [09]	CS676A [09]	CS685A [09]
			CS664A [09]	CS425A [09]	CS649A [09]	CS685A [09]	CS698I [09]
			CS719A [09]	CS433A [09]	CS680A [09]	CS686A [09]	CS698N [09]
			CS743A [09]	CS455A [09]	CS681A [09]	CS782A [09]	CS698S [09]
					CS687A [09]		CS772A [09]
					CS740A [09]		CS773A [09]
					CS741A [09]		CS774A [09]
					CS742A [09]		-

Remarks:

1) For each Minor stream, the minimum total credit requirement is **30**.
2) In each minor stream any related course(s), even if not mentioned in the list of optional courses, may be taken as optional with the permission of the CSE DUGC.
3) @Only for students graduating till 2017.

LIST OF MINORS

7.	ELECTRICAL ENGINEERING	MINOR					Template No.**EE-4**
		Title	MICROELECTRONICS/ DIGITAL SYSTEMS	POWER	COMMUNICATIONS & SIGNAL PROCESSING	CONTROLS	RF & PHOTONICS
		C O U R S E S	EE200A [11] EE210A [11] EE311A [09]/ EE370A [11]	EE200A [11] EE330A [11] EE360A [09]	EE200A [11] EE320A [11] EE321A [09]/ EE301A [09]	EE200A [11] EE250A [11] EE650A [09]	EE200A [11] EE340A [11] EE612A [09]/ EE642A [09]/ EE648A [09]
			31/33	31	31	31	31

LIST OF MINORS

8.	HUMANITIES & SOCIAL SCIENCES (New Template)	MINOR			
		Title	LINGUISTIC THEORY	ENGLISH LITERATURE	PHILOSOPHY
			Pre-requisite: Completion of a Level-I course in Linguistics with at least a B grade.	**Pre-requisite**: Completion of any one Literature course with at least a B grade.	**Pre-requisite**: Completion of any one Philosophy course.
		C O U R S E S	ONE course from following: ENG122A [11] ENG124A [11] and, TWO courses from following: ENG408A [09] ENG423A [09] ENG443A [09] ENG447A [09] ENG448A [09] ENG449A [09] ENG452A [09] ENG467A [09] ENG748A [09] ENG754A [09] ENG759A [09] **Total Required Credits for Minor: 29**	THREE courses from following: ENG123A [11] ENG125A [11] ENG431A [09] ENG432A [09] ENG433A [09] ENG434A [09] ENG435A [09] ENG436A [09] ENG437A [09] ENG438A [09] ENG439A [09] ENG440A [09] ENG445A [09] ENG446A [09] ENG456A [09] ENG457A [09] ENG458A [09] ENG460A [09] ENG466A [09] HSS405A [09] ENG719A [09] ENG733A [09] ENG743A [09] ENG744A [09] ENG750A [09] ENG 752 [09] ENG 753 [09] ENG 764 [09] **Total Required Credits for Minor: 27-31**	THREE courses from following: PHI141 [11] PHI147 [11] PHI142 [11] PHI143 [11] PHI145 [11] PHI446 [09] PHI447 [09] PHI448 [09] PHI452 [09] PHI455 [09] PHI443M [05] PHI757 [09] PHI774 [09] **Total Required Credits for Minor: 27**
	Remarks: If a student has done a course in English other than those listed above and wishes to have a Minor in English (Linguistics or English Literature), he/she may request the DUGC, HSS, to approve of the same.				

LIST OF MINORS

9.	INDUSTRIAL AND MANAGEMENT ENGINEERING		

MINOR		Template No. **IME-3**	
Title	INDUSTRIAL AND MANAGEMENT ENGINEERING		
C	DE PG-1		
O	DE PG-2		
U	DE PG-3		
R	-		
S			
E			
S			
	27		

REMARKS:
1) DE PG may be from IME or MBA courses.

10.	MATERIALS SCIENCE & ENGINEERING	MINOR		Template No.MSE-5	
		Title	FUNCTIONAL MATERIALS		
		C O U R S E S	Any THREE from:		
			MSE604A [09]		
			MSE624A [09]		
			MSE628A [09]		
			MSE631A [09]		
			MSE693A [09]		
			27		

LIST OF MINORS

11.	MATHEMATICS AND SCIENTIFIC COMPUTING		

MINOR			Template No. **BS-MTH-5**
Title	**APPLIED MATHEMATICS**		
C O U R S E S			
	MTH308A [11]		
	MTH428A [11]		
	MTH426A [09]		
	31		

LIST OF MINORS

12.	MECHANICAL ENGINEERING	**MINOR**		Template No. **ME-5**
		Title	**MANURACTURING SCIENCES**	**COMPUTATIONAL TECHNIQUES IN MECHANICAL ENGINEERING**
		C O U R S E S	Any **THREE** from:	Any **THREE** from:
			ME661A [09] (Prerequisite TA202A)	**ME623A [09]** (Prerequisite ESO202A, MSO203B)
			ME662A [09] (Prerequisite TA202A)	**ME630A [09]** (Prerequisite ESO201A, ESO204A, MSO203B)
			ME663A [09] (Prerequisite ESO202A, MSO203B)	**ME685A [09]** (Prerequisite – No backlog in core courses)
			ME664A [09] (Prerequisite TA202A, ESO204A or Equivalent Heat Transfer Course)	**ME751A [09]** (Prerequisite TA101A)
			ME665A [09] (Prerequisite TA202A)	**MEXXXA [09]** (Nonlinear Finite Element Techniques in Solid Mechanics)
			ME774A [09] (Prerequisite ESO202A, MSO203B)	**MEXXXA [09]** (Atomistic Simulations in Engineering)
			ME751A [09] (Prerequisite TA101A)	-
			ME761A [09] (Prerequisite TA202A)	
			27	**27**

LIST OF MINORS

13.	**PHYSICS**	**MINOR**		Template No. **BS-PHY-5**	
		Title	STATISTICAL MECHANICS	QUANTUM MECHANICS	
		C			
		O	PSO201A [08]	PSO201A [08]	
		U			
		R	PHY210A [06]	PHY210A [06]	
		S	PHY226B [06]	PHY226B [06]	
		E			
		S	PHY412A [11]	PHY431A [11]	
			31	**31**	

LIST OF MINORS

14.	COGNITIVE SCIENCE			Remark:

MINOR		Template No. CONG.-1
Title	COGNITIVE SCIENCE	
	Compulsory courses:	

C O U R S E S	CGS401A [09]
	CGS402A [09]
	and, ONE courses from following list:
	CGS702A [09]**
	CGS621A [09]
	CGS622A [09]
	CGS609A [09]
	CGS698D [09]
	CGS691A [09]
	CGS671A [09]
	CGS651A [09]
	CS786A [09]
	BSE656A [09]
	BSE662A [09]
	27

Remark:
1. Updated template of Minor in Cognitive Science was approved by the Senate in its 550th Meeting (item No. 6).

2. The updated template is applicable from July-2022 onwards.

3. ** The project course is a semester long project that a student must take with any ONE or Jointly (more than one) of the faculty from the Department of Cognitive Science.

LIST OF MINORS

15.	NUCLEAR ENGINEERING TECHNOLOGY			
		MINOR	Template No. **BS-NET 2**	**Remark:** **1. Minor in Nuclear Engineering Technology has been discontinued. Students may request for retrospective Minor if they completed the course requirements.**
		Title	**NUCLEAR ENGINEERING TECHNOLOGY**	
		C O U R S E S		
			NT602A [09]	
			NT611A [09]	
			NT614A [09]	
			-	
			27	

LIST OF MINORS

16.	STATISTICS AND DATA SCIENCE			
		MINOR		Template No. **BS-SDS**
		Title	**STATISTICS AND DATA SCIENCE**	
		C **O** **U** **R** **S** **E** **S**		
			MSO205A[11] or HSO201A[11] or CS203B[5]	
			MTH211A[11]	
			MTH411A[10]	
			MTH208A[5]	
			31-37	

17.	Sustainable Energy Engineering			

	MINOR	Template No. SEE-1	Remark:

	Title	**Sustainable Energy Engineering**	As per this template, a student has to take minimum 2 courses from departmental electives. Out of the two, if a student wishes, s/he can take maximum one course from courses listed as PG-DE (MBA681A, MBA683A, MBA782A) but then the remaining second department elective course, s/he has to choose from optional department electives.
		Compulsory courses:

COURSES	
	SEE604A [09]
	SEE605A [09]
	and, TWO optional courses from following list:
	SEE606A [09]
	SEE607A [09]
	SEE608A [09]
	EE698D [09]
	EE630A [09]
	EE660A [09]
	EE631A [09]
	MSE673A [09]
	SEE602A [09]
	SEE611A [09]
	SEE612A [09]
	SEE613A [09]
	SEE614A [09]
	SEE615A [09]
	SEE616A [09]
	SEE617A [09]
	ME743A [09]
	ME686A [09]
	At most only one of the following courses if taken as PG-DE:
	MBA681A [09]
	MBA683A [09]
	MBA782A [09]

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LIST OF MINORS

18.	Space, Planetary & Astronomical Sciences & Engineering (SPASE)	MINOR		Template No. SPASE-1	Remark: All future courses from the department, except the ones entirely related to mathematical methods or numerical techniques will be available as elective courses to complete minor.
		Title	Space Science		
			Compulsory courses:		
		C O U R S E S	SPA201 [09]		
			and, any THREE Elective courses (9 credits each) offered by SPASE department.		
			[Except SPA602 (Mathematical Methods in Space Science) and SPA604 (Numerical Methods in Space Sciences & Engineering)]		
			SPA401 [09]		
			SPA613 [09]		
			SPA661 [09]		
			SPA601 [09]		
			SPA603 [09]		
			SPA610 [09]		
			SPA612 [09]		
			SPA620 [09]		
			SPA621 [09]		
			SPA622 [09]		
			SPA625 [09]		
			SPA660 [09]		
			36		

The End