

**13. Courses of Study and Scheme of Assessment  
BE METALLURGICAL ENGINEERING**

**(2019 Regulations)**

Course Code	Course Title	Periods / week			Maximum Marks				
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
<b>SEMESTER VII</b>									
19Y701	Nondestructive Testing	3	0	0	3	50	50	100	PC
19Y____	Professional Elective II	3	0	0	3	50	50	100	PE
19Y____	Professional Elective III	3	0	0	3	50	50	100	PE
19Y____	Professional Elective IV	3	0	0	3	50	50	100	PE
19____	Open Elective II	3	0	0	3	50	50	100	OE
19Y710	Nondestructive Testing and Surface Engineering Laboratory	0	0	4	2	50	50	100	PC
19Y720	Project Work I	0	0	4	2	50	50	100	EEC
<b>Total 23 periods</b>		<b>15</b>	<b>0</b>	<b>8</b>	<b>19</b>	<b>350</b>	<b>350</b>	<b>700</b>	
<b>SEMESTER VIII</b>									
19Y____	Professional Elective V	3	0	0	3	50	50	100	PE
19Y____	Professional Elective VI	3	0	0	3	50	50	100	PE
19Y820	Project Work II	0	0	8	4	50	50	100	EEC
<b>Total 14 periods</b>		<b>6</b>	<b>0</b>	<b>8</b>	<b>10</b>	<b>150</b>	<b>150</b>	<b>300</b>	

CA Continuous Assessment  
FE Final Examination

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### **PROFESSIONAL ELECTIVES**

- 19Y001 Metallurgy of Steels and Nonferrous Alloys
- 19Y002 Metallurgy of Tool Materials
- 19Y003 Structure and Properties of Polymers
- 19Y004 Nanomaterials
- 19Y005 Biomaterials
- 19Y006 Material and Energy Balance in Metallurgy
- 19Y007 Metallurgy of Castings
- 19Y008 Special Forming Processes
- 19Y009 Welding Metallurgy
- 19Y010 Welding Procedures and Qualifications
- 19Y011 Surface Coatings and Modifications
- 19Y012 Additive Manufacturing
- 19Y013 Advanced Nondestructive Testing
- 19Y014 Metallurgical Failure Analysis
- 19Y015 Selection of Materials
- 19Y016 Mathematical Modelling in Metallurgical Engineering
- 19Y017 Computations in Metallurgical Engineering
- 19Y018 Microstructural Simulation

### **LANGUAGE ELECTIVES**

- 19G001 Communication Skills for Engineers
- 19G002 German- Level A1.1
- 19G003 French Language Level 1
- 19G004 Basic Japanese

### **ONE-CREDIT COURSES**

#### **METALLURGICAL ENGINEERING**

- 19YF01 Blast Furnace Design and Cast House Practice
- 19YF02 Advanced Cast Irons and Foundry Management

#### **ENGLISH**

- 19GF01 Interpersonal and Organizational Communication
- 19GF02 Human Values Through Literature

#### **HUMANITIES**

- 19OFA1 Export – Import Practices
- 19OFA2 Insurance - Concepts and Practices
- 19OFA3 Public Finance
- 19OFA4 Security Analysis and Portfolio Management

**Summary of Credit Distribution**

<b>BE METALLURGICAL ENGINEERING</b>										
<b>S. No</b>	<b>Course Category</b>	<b>Credits Per Semester</b>								<b>Total Credits</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	
1	HS	3	2	3	0	0	0	0	0	8
2	BS	12	10	3	3	0	0	0	0	28
3	ES	3	7	10	4	0	0	0	0	24
4	PC	3	2	5	15	23	15	5	0	68
5	PE	0	0	0	0	0	3	9	6	18
6	OE	0	0	0	0	0	3	3	0	6
7	EEC	0	0+2	0	1	1	3	2	4	13
8	MC	-	-	-	-	-	-	-	-	-
	<b>TOTAL</b>	<b>21</b>	<b>21+2</b>	<b>21</b>	<b>23</b>	<b>24</b>	<b>24</b>	<b>19</b>	<b>10</b>	<b>165</b>

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