



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code: 3P4CD

B.Tech IV Semester Supplementary Examinations, February 2024
MANUFACTURING PROCESS
(MECHANICAL ENGINEERING)

Maximum Marks: 70

Date: 23.02.2024 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

		CO	BTL
1	What is the difference between pattern and casting?		
2	What are the applications of sweep pattern?	CO1	L1
3	What is the difference between DC and AC arc welding?	CO1	L1
4	What is filler metal? Explain its importance in welding.	CO2	L1
5	Compare soldering and Brazing.	CO2	L2
6	Explain the basic principle of resistance welding?	CO3	L2
7	What is hot rolling?	CO3	L2
8	What are the specific merits of cold working over hot working?	CO4	L1
9	List out the common forging defects.	CO4	L2
10	What are the advantages of extrusion process?	CO5	L1
		CO5	L2

Part-B

Answer All the following questions.

(5X10M=50Marks)

11	Explain the principle of investment casting with necessary sketches. (10M)	CO1	L5
	OR		
12	a) What purpose is served by the risers in sand casting? Explain the principles of design of risers. b) Describe the process of centrifugal casting with neat sketch. (5M+5M)	CO1	L3
13	a) Explain the oxy-acetylene gas welding technique and give the applications. b) Explain the resistance welding process giving the equipment and its advantages. (5M+5M)	CO2	L5
	OR		
14	Categorize in detail welding defects and their causes and remedies. (10M)	CO2	L4
15	a) Write a short note on laser beam welding, detailing the applications. b) What is friction welding? What are its applications? (5M+5M)	CO3	L3
	OR		
16	a) What are the reasons and effects of Heat affected zone in welding? b) Explain destructive and nondestructive testing of welds. (5M+5M)	CO3	L3

17	a) Explain about hot spinning and cold spinning applications. b) Distinguish between bending and drawing in sheet-metal operations. (5M+5M)	CO4	L5
	OR		
18	a) What are the main characteristics of hot working as compared with cold working process? b) Derive the expression for roll separating force and power in rolling. (5M+5M)	CO4	L3
19	a) Distinguish between roll forging and rotary forging. b) Distinguish hot extrusion and cold extrusion processes. (5M+5M)	CO5	L4
	OR		
20	a) List out the different forging operations. Explain drop forging operation with neat sketch. b) Enumerate the principles of forging (7M+3M)	CO5	L5