R20 Regulation *Subject code: 3P4CD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech IV Semester Supplementary Examinations, June 2026

MANUFACTURING PROCESS

(ME)

Maximum Marks: 70 Date: 15.06.2026 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.
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)		Marks	CO	BTL
1	What is the difference between pattern and casting?	2M	1	L1
2	What are the advantages of casting process and mention its applications.	2M	1	L1
3	What is the difference between DC and AC arc welding?	2M	2	L1
4	What is filler metal?	2M	2	L1
5	How is brazing different from welding.	2M	3	L1
6	Explain the heat affected zones in welding.	2M	3	L1
7	Suggest the presses used for coining operations.	2M	4	L1
8	What are the specific merits of cold working over hot working?	2M	4	L1
9	What are the advantages of extrusion process?	2M	5	L1
10	Differentiate drop and press forging.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	a) Differentiate between pressurized and unpressurised gating systems with reference to the applications. b) What do you understand by centrifugal casting? How are the centrifugal casting methods classified?	5M 5M	1	L2
	OR			
12	a) What purpose is served by the risers in sand casting? Explain the principles of design of risers. b) What are the advantages, limitation and applications of investment casting?	5M 5M	1	L2
13	Explain the resistance welding process giving the equipment, parameters controlled and its advantages.	10M	2	L2
	OR			
14	a) What are the kinds of joints that are normally employed for welding processes? Give their sketches. b) Explain submerged arc welding process and its applications.	5M 5M	2	L2

15	a) what are differences between TIG and MIG welding processes? b) Write a short note on laser beam welding, detailing the applications.	5M 5M	3	L2
	OR			
16	Explain about welding defects and destructive and non- destructive testing of welds.	10M	3	L2
17	a) What are the main characteristics of hot working as compared with cold working process? b) Explain about hot spinning and cold spinning applications.	5M 5M	4	L2
	OR			
18	a) Briefly explain various methods available for breakdown passes in rolling. Explain their applications. b) Distinguish between bending and drawing in sheet-metal operations.	5M 5M	4	L2
19	a) Explain forward extrusion and backward extrusion with neat sketches. b) Differentiate between roll forging and rotary forging.	5M 5M	5	L2
	OR			
20	a) Discuss any one nondestructive testing of welds. b) Distinguish soldering and brazing process and also state its applications.	5M 5M	5	L2