*Regulation R17* *Subject code:* 1P4CD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

## B.Tech II Year II Semester Supplementary Examinations, July 2021

# MANUFACTURING PROCESS

*Mechanical Engineering*

***Maximum Marks: 70*** Date:22.07.2021 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)

1 What is the difference between pattern and casting?
2 What are the advantages of casting process and mention its applications
3 What is the difference between DC and AC arc welding?
4 What is filler metal? Explain its importance in welding.
5 How is brazing different from welding
6 Explain the heat affected zones in welding
7 Suggest the presses used for coining operations.
8 What are the specific merits of cold working over hot working?
9 What are the advantages of extrusion process?
10 What are the forging defects?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 a) Differentiate between pressurized and unpressurised gating systems with reference to the applications. [5]
b) What do you understand by centrifugal casting? How are the centrifugal casting methods classified? [5]

OR

12 a) What purpose is served by the risers in sand casting? Explain the principles of design of risers. [5]
b) What are the advantages, limitation and applications of investment casting? [5]

13 a) Describe the oxy-acetylene gas welding technique and give the applications. [5]
b) Explain the resistance welding process giving the equipment, parameters controlled and its advantages. [5]

OR

14 a) What are the kinds of joints that are normally employed for welding processes? Give their sketches. [5]
b) Explain submerged arc welding process and its applications. [5]

15 a) what are differences between TIG and MIG welding processes? [5]
b) Write a short note on laser beam welding, detailing the applications. [5]

OR

16 a) What is friction welding? What are its applications? [5]
b) Explain about welding defects and destructive and nondestructive testing of welds. [5]

17 a) What are the main characteristics of hot working as compared with cold working process? [5]
b) Explain about hot spinning and cold spinning applications. [5]

OR

18 a) Briefly explain various methods available for breakdown passes in rolling. Explain their applications. [5]
b) Distinguish between bending and drawing in sheet-metal operations. [5]

19 a) Explain forward extrusion and backward extrusion with neat sketches. [5]
b) Differentiate between roll forging and rotary forging. [5]

OR

20 a) Differentiate hot extrusion and cold extrusion processes. [5]
b) Sketch and explain forging hammers. What are the advantages of cold forging? [5]