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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S4 (S, FE) / S4 (PT) (S) Examination January 2024 (2019 Scheme)



Course Code: MET204

Course Name: MANUFACTURING PROCESS

Max. Marks: 100

Duration: 3 Hours

**PART A**

*(Answer all questions; each question carries 3 marks)*

Marks

- |    |   |   |
|----|---|---|
| 1  | What is Caine's method? What is its importance?   | 3 |
| 2  | The runner is tapered from its top to bottom. Why?  | 3 |
| 3  | What is the relation between the grain size and hardness of a weldment?                                 | 3 |
| 4  | What are the various types of flames formed in an oxy-acetylene welding process? What are its uses?     | 3 |
| 5  | What is forward slip and backward slip in a rolling process? What is its importance in rolling process? | 3 |
| 6  | Differentiate between hot rolling and cold rolling processes.   | 3 |
| 7  | What is flash in forging process? What is its importance?   | 3 |
| 8  | List any three defects that can occur in an extrusion process.  | 3 |
| 9  | Enlist the various locating methods used to fix a work piece.   | 3 |
| 10 | What is cavity location? How is it accomplished?  | 3 |

**PART B**

*(Answer one full question from each module, each question carries 14 marks)*

**Module -1**

- |    |  |   |
|----|--|---|
| 11 | a) List the various types of allowances which are usually provided in a pattern. Explain any four. | 7 |
|    | b) With the help of a neat sketch, explain the hot chamber die casting process.                    | 7 |
| 12 | a) Explain the vacuum arc remelting process. What are its applications?                            | 7 |
|    | b) With the help of neat sketches, explain the various defects that can occur in a cast part.      | 7 |

**Module -2**

- |    |  |   |
|----|--|---|
| 13 | a) Describe the common types of discontinuities in welded joints.                                | 8 |
|    | b) How does the percussion welding process carry out? What are its advantages and disadvantages? | 6 |

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- 14 a) With a neat sketch, explain the shielded metal arc welding process. 7  
b) Explain the electron beam welding process with the help of a neat diagram. 7

**Module -3**

- 15 a) With the help of neat sketches, explain the mechanics of the flat rolling process. 7  
b) Explain the various steps involved in finding out the roll forces in the hot rolling process. 7
- 16 a) Give an account of various types of rolling defects. 8  
b) With a neat sketch, explain the thread rolling process. 6

**Module -4**

- 17 a) With the help of neat sketches, explain the various steps involved in the closed die forging process. 7  
b) Analyse the forging process using the slab method. 7
- 18 a) With the help of neat diagrams, explain the wire drawing process. 7  
b) Explain the various types of impact extrusion process and its uses. 7

**Module -5**

- 19 a) With the help of neat sketches, explain the locating from plane, circular and irregular surface. 7  
b) Explain the various steps in nibbing and notching operation with neat sketches. 7
- 20 a) With the help of neat diagrams, explain the inverted, compound and progressive dies. 7  
b) How embossing process is carried out? What are its applications? 7

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