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Question Paper Code	12387
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Third Semester

Mechanical Engineering

20MEPC301 - MANUFACTURING PROCESSES

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. What is core venting? | <i>2,K1,CO1</i> |
| 2. Why flux is coated on filler rods? | <i>2,K1,CO1</i> |
| 3. Define cold working of metals. | <i>2,K1,CO2</i> |
| 4. Define a cut-off and a parting operation. | <i>2,K1,CO2</i> |
| 5. Name the various cutting tool materials. | <i>2,K1,CO3</i> |
| 6. Differentiate live centre and dead centre | <i>2,K2,CO3</i> |
| 7. Name any four-work holding driven in shaper. | <i>2,K1,CO4</i> |
| 8. Define gear shaving. | <i>2,K1,CO4</i> |
| 9. List out the types of grinding operations. | <i>2,K1,CO5</i> |
| 10. Define push broach. | <i>2,K1,CO5</i> |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

- | | |
|--|------------------|
| 11. a) (i) Describe the working principle of a cupola furnace with neat sketch. | <i>7,K2,CO1</i> |
| (ii) Explain any three allowances given while making pattern. | <i>6,K2,CO1</i> |
| OR | |
| b) Evaluate the equipment and operation of GTAW process with its advantages and disadvantages. | <i>13,K2,CO1</i> |
| 12. a) Write short notes on the following : | <i>13,K2,CO2</i> |
| a. Shearing. | |
| b. Blanking. | |
| c. Piercing. | |
| d. Punching. | |
| e. Coining. | |
| f. Embossing. | |

OR

- | | |
|---|------------------|
| b) Explain the process of forward extrusion and hollow sections can be produced with neat sketch. | <i>13,K2,CO2</i> |
|---|------------------|

13. a) Explain various tool parts of a single point cutting tool with a neat sketch. *13,K2,CO3*

OR

b) Compare and contrast capstan and turret lathes. *13,K2,CO3*

14. a) Explain about different operations performed in a slotter with neat sketches. *13,K2,CO4*

OR

b) Explain about different tool holding devices in drilling. *13,K2,CO4*

15. a) Explain about the different types of abrasives used in a grinding wheel. *13,K2,CO5*

OR

b) Explain the working construction of cylindrical grinding and surface grinding with neat sketch. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain how the pipes and cylinder liners are made by centrifugal casting process. *15,K2,CO6*

OR

b) Explain the working of the crank and slotted link quick return motion mechanism used in shaper. *15,K2,CO6*