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C192052



Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

Course Code: ME220

Course Name: MANUFACTURING TECHNOLOGY

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

Marks

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|---|---|-----|
| 1 | a) What is sand Casting? Explain the advantages of sand casting over metal die casting. | (5) |
| | b) Why gating system is so important? Explain with neat sketch | (5) |
| 2 | a) Showcase the defects in rolling? Showcase its advantages over casting? | (5) |
| | b) Explain ring rolling process. | (5) |
| 3 | a) Explain the different forging methods. | (5) |
| | b) Showcase the advantages and disadvantages of forging. | (5) |
| 4 | a) Clarify how to arrest 12 degrees of freedom. | (5) |
| | b) Clamping is really required for manufacturing practices. Explain. | (5) |

PART B

Answer any three full questions, each carries 10 marks.

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|---|---|-----|
| 5 | a) With neat sketch explain what are the die design parameters have to be considering while designing a die for forging. | (5) |
| | b) Connecting rod of any automobile machine component is considered as important machine element. Suggest any one type of manufacturing process to make connecting rod and explain. | (5) |
| 6 | a) Elucidate about coining in detail and also differentiate between coining and heading. | (6) |
| | b) Explain about "flash" in forging process. | (4) |
| 7 | a) Explain degrees of freedom and 3-2-1 principle with neat sketch. | (5) |
| | b) Illustrate in detail about Strap and Swing clamping. | (5) |
| 8 | a) With neat sketch explain Magnet clamping. | (6) |
| | b) With neat sketch explain locating from circular surfaces. | (4) |

PART C

Answer any four full questions, each carries 10 marks.

- 9 a) Deep drawing process is a shape transformation process. Justify the statement. (5)
b) Illustrate various methods of bending terminology. (5)
- 10 a) How can we form a sheet metal work piece using rubber forming process. (4)
b) Elucidate about stretch forming process. (6)
- 11 a) Define welding? Demonstrate about the industrial application of welding. (3)
b) With neat sketch explain any two types of welding process. (7)
- 12 a) Tube spinning process does not involve removal of material. Justify the statement and explain about tube spinning process. (4)
b) With neat sketch explain Flame characteristics of a gas welding process. (6)
- 13 a) Why "flux" is widely used for welding? Does it really required? (4)
b) With neat sketch explain Submerged arc welding process. (6)
- 14 a) With neat sketch illustrate about stud welding. (5)
b) How does plasma arc welding works? Demonstrate with neat sketch. (5)
