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Question Paper Code: 50732

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Third Semester

Mechanical Engineering

15UME302 - MANUFACTURING TECHNOLOGY - I

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Riddle is used for
 - (a) smoothing and cleaning out depressions in the mould
 - (b) cleaning the moulding sand
 - (c) moistening the sand around the edge before removing pattern
 - (d) reinforcement of sand in the top part of moulding box

2. The purpose of gate is to
 - (a) deliver molten metal into the mould cavity
 - (b) acts as reservoir for the molten metal
 - (c) feed the molten metal to the casting in order to compensate for the shrinkage
 - (d) deliver the molten metal from pouring basin to gate

3. Thermit, used in thermit welding, is a mixture of
 - (a) charcoal and iron oxide
 - (b) char coal and aluminium
 - (c) iron oxide and aluminium
 - (d) char coal, iron oxide and aluminium

4. The flux commonly used in brazing is
 - (a) zinc chloride
 - (b) ammonium chloride
 - (c) rosin plus alcohol
 - (d) borax

5. The temperature at which the new grains are formed in the metal is called
 - (a) lower critical temperature
 - (b) upper critical temperature
 - (c) eutectic temperature
 - (d) recrystallization temperature
6. The process extensively used for making bolts and nuts is
 - (a) hot piecing
 - (b) extrusion
 - (c) cold peening
 - (d) cold heading
7. The operation of producing cup shaped parts from flat sheet metal blanks by bending and plastic flow of metal, is known as
 - (a) drawing
 - (b) squeezing
 - (c) coining
 - (d) planishing
8. The operation of cutting of a flat sheet to the desired shape is called
 - (a) shearing
 - (b) piercing
 - (c) punching
 - (d) blanking
9. The process of producing thin sheets by squeezing the thermoplastic material between revolving cylinders is known as
 - (a) Transfer moulding
 - (b) injection moulding
 - (c) blow moulding
 - (d) calendaring
10. Which process is used to manufacture plastic bottles
 - (a) injection moulding
 - (b) compression moulding
 - (c) blow moulding
 - (d) vacuum forming

PART - B (5 x 2 = 10 Marks)

11. What is the function of core prints?
12. State the principle of resistance welding.
13. What are the disadvantages of forging process?
14. What is stretch forming?
15. What is thermoforming?

PART - C (5 x 16 = 80 Marks)

16. (a) Describe the various defects, causes and remedies in a casting process. (16)

Or

- (b) Explain shell moulding with neat sketches from the point of process, product and applications. (16)

17. (a) Explain the metal arc welding process with neat sketch. (16)

Or

(b) Describe the electron beam welding process with a neat sketch. (16)

18. (a) Explain the basic forging operations with suitable sketches. (16)

Or

(b) Explain hot and cold extrusion with neat sketch. (16)

19. (a) Write short notes on (1) magnetic pulse forming (2) rubber pad forming. (16)

Or

(b) With the help of a neat diagram, discuss explosive forming process. (16)

20. (a) With suitable sketches, explain the process of thermoforming. (16)

Or

(b) With simple sketches, explain the sequence of operations in transfer moulding for thermosetting process. (16)
