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Total No. of Pages: 02
Total No. of Questions: 09

B. Tech. (AE)(Sem.4th)
Manufacturing Processes
Subject Code-AE-204
Paper ID-A-0710

Time: 3 Hrs.**Max. Marks: 60****INSTRUCTION TO CANDIDATES:**

1. **SECTION - A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION - B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION - C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION A**(10x2=20)**

1. (a) What are the characteristic of a core?
- (b) How extrusion processes are classified? Write the name of the variables that affects the extrusion process performance?
- (c) How will you detect the welding defect? Explain.
- (d) What is die casting? How it is important in casting processes?
- (e) What is brazing? How it is different from soldering?
- (f) Differentiate between shaping and planning machine.
- (g) What are the objectives and purposes of coolants used in metal cutting?
- (h) What is vacuum casting? How it is different from shell mould casting?
- (i) What is CBN? How it is important in metal cutting?
- (j) What is bending? How it is different from drawing of rod?

SECTION B

2. Name the various constituents of moulding sands. Discuss their role. State their important properties. 1+4=5
3. Write the name of the different types of gas welding. Describe any one type from your answer. Give sketch in support of your answer. 1+4=5
4. How rolling processes are classified? What are the rolling defects that usually occur during rolling of a sheet metal? Explain at least three defects with simple sketch and explain their remedial actions. 2+(2+1)=5

5. Draw a twist drill and label all parts. Write the name of the various accessories used in a lathe machine. Explain thread cutting operation on a lathe machine. Answer with simple sketch.

1.5+1+2.5=5

6. Explain cylindrical and surface grinding process. Give simple sketch in support of your answer.

5

SECTION C

7. (i) Explain the working of a cupola. Give simple sketch in support of your answer.

- (ii) What are the different non-traditional machining processes? Give examples and write their advantages and limitations.

6+4=10

8. (i) How milling machines are classified? State and explain the compound indexing method. List out the various rules applied in differential indexing. In what cases simple indexing can be recommended? Answer briefly with justification,

- (ii) What is forging? List out the different forging defects and explain their remedial actions.

(1+2+1+2)+4=10

9. Write short notes on the followings:

- (i) Resistance welding.
 (ii) Casting defects and their causes.
 (iii) Press working operation.
 (iv) Cutting tool materials.

2.5x4=10

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