B.E. Mechanical Engineering Fourth Semester

ME404 - Manufacturing Processes

P. Pages : 2 **GUG/W/18/1582**

Time : Three Hours * 1 2 4 6 * Max. Marks : 80

Notes :
1. All questions carry marks as indicate.
2. Answer 5 Que. Que No. 1or2, Que 3or4, Que 5or6, Que.7or8, Que 9or10.
3. Due Credit Will be given to neatness.
4. Assume suitable data wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. All questions are compulsory.
7. Use of non-programmable Calculator is permitted.

1. a) Discuss briefly the various types of patterns used in foundry shop. **8**

b) What is are? What is its use? Explain the different stages of care making. What is core print? **8**

OR

2. a) What are the common allowances provided on pattern? Describe each with its necessity. **8**

b) What is pattern and a master pattern? What are the common materials used for pattern making? Discuss their relative merits and demerits. **8**

3. a) What are different types of gates? Explain them with the help of sketches stating the relative merits and demerits of each. **8**

b) Explain the process of shell moulding giving its advantages, limitations and applications. **8**

OR

4. a) What are the main requirements of an ideal gating system? Draw neat sketch of gating system and explain each component. **8**

b) With the help of neat sketch explain construction and operation of cupola furnace. **8**

5. a) Sketch and explain different types of extrusion processes and their uses. **8**

b) Name the various parts of a mechanical power press and describe them with neat sketches. **8**

OR

6. a) Differentiate between hand forging and power forging. Discuss pneumatic forging hammer with neat sketch. **8**

b) What is 'press working'? Describe different press operations. **8**

7. a) Describe Abrasive Jet Machining (AJM) process. What are its advantages, applications and disadvantages? Explain the process parameters of AJM. **10**

b) What are non-conventional Machining processes? Classify them. How non-conventional machining differs from conventional machining? **6**

OR

8. a) Describe Ultrasonic Machining (USM) process. What are its advantages, applications and disadvantages? Explain the process parameters of USM. **10**

b) Write short note: Flushing and Dielectric fluids in EDM. **6**

9. a) Explain plasma Arc welding process. State its advantages, limitations and applications. Differentiate between transferable torch and non-transferable torch. **10**

b) Write short note: Polarity in arc welding. **6**

OR

10. a) Explain oxy-acetylene gas welding. Explain various types of flames used in gas welding, giving their importance. **8**

b) Explain the different equipment and accessories used in gas welding. **8**

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