

3E1414

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B. Tech. (Sem.III) (Main/Back) Examination, January - 2009

(3ME4) Manufacturing Processes (Mechanical Engg.)

(3PI4) Manufacturing Processes (Prod. & Indus. Engg.)

(3AE4) Manufacturing Processes (Automobile Engg.)

Time : **3 Hours**

[Total Marks : **80**

[Min. Passing Marks : **24**

Attempt five questions in all. Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil 2. _____ Nil

- 1 Discuss various types of allowances provided for patterns. Explain with the help of neat sketches, how these allowances are provided for different materials.

OR

Describe and compare the following :

- (a) Sand casting
- (b) Investment casting
- (c) Permanent mould casting
- (d) Die-casting.

- 2 Explain the following with the help of neat sketches :

- (a) TIG welding
- (b) Laser beam welding
- (c) Spot welding
- (d) Ultrasonic welding.

OR

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[Contd...

Differentiate between Resistance welding and Gas welding. Give merits and demerits and applications of each.

3 Describe the following processes with neat sketch :

- (a) Extrusion
- (b) Blanking
- (c) Embossing and coining
- (d) Riveting.

OR

What is the difference between hot and cold working processes ? Discuss the principle of forging tool design.

4 Write short notes on :

- (a) Mechanical Pulverization
- (b) Sintering
- (c) Properties of metal powders
- (d) Applications of powder metallurgy.

OR

What are additive and subtractive processes ? Give examples of both. Describe Rapid Prototyping operation. State its applications.

5 Explain the following processes :

- (a) Injection moulding
- (b) Calendaring
- (c) Thermoforming
- (d) Laminating.

OR

Discuss the general properties and classification of Plastics.

