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**Question Paper Code : 51023**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Third Semester

Automobile Engineering

AE 2253/AE 44/10122 AE 404 — PRODUCTION TECHNOLOGY

(Common to Fourth Semester Aeronautical Engineering)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What metals and alloys are suitable for foundry patterns? What are the advantages of aluminum patterns?
2. What is permeability?
3. What are E 7018?
4. Give the differences between welding and brazing?
5. Write the difference between capstan and turret lathe?
6. Name the electrodes are used in EDM process?
7. Write short note on blow moulding.
8. Classify the types of plastics.
9. What is difference between extrusion and drawing process?
10. What is sintering?

PART B — (5 × 16 = 80 marks)

11. (a) (i) With a neat diagram, briefly explain the continuous casting process. (10)  
(ii) What are the different types of core boxes? Explain about the core binders. (6)  
Or  
(b) (i) Describe the procedure of making castings by the centrifuging casting process. (8)  
(ii) What are the advantages and limitations of shell molding and pressure die casting process. (8)

12. (a) (i) With a help of a neat sketch briefly describe the submerged arc welding (SAW) process. (10)
- (ii) What are the different types of electrode coatings? What are the functions of flux coating? (6)

Or

- (b) (i) Briefly explain the working principle of the electron beam welding process and mention their applications. (10)
- (ii) Explain the various welding defects, causes and remedies. (6)
13. (a) (i) With a neat sketch explain the principle and operation of horizontal milling machine and write their limitations. (12)
- (ii) What are the differences between NC and CNC machines? (4)

Or

- (b) (i) With a neat sketch explain the working principle of Abrasive jet machining and write their advantages. (10)
- (ii) In what way, the laser beam machining process superior than electron beam machining process. (6)
14. (a) (i) Describe briefly the process of rotational moulding as used for producing plastic components. (8)
- (ii) Explain how bondings of thermoplastics are carried out and write in detail about fusion and solvent methods in thermoplastics. (8)

Or

- (b) (i) Describe briefly the process of rotational moulding as used for producing plastic components. (10)
- (ii) Explain the thermoplastics with examples. (6)
15. (a) (i) Describe briefly about the processing of thermosets by using fusion and solvent methods. (10)
- (ii) Briefly explain the working principle of Injection moulding process. (6)

Or

- (b) (i) Write the principal steps involved in powder metallurgy components and write its disadvantages (8)
- (ii) Write the principles and applications of following processes
- (1) Extrusion
- (2) Wire drawing. (4 × 2)