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Question Paper Code: 93706

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Mechanical Engineering

19UME 306 – MATERIALS ENGINEERING

(Regulation 2019)

Duration: One hour

Maximum: 30Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The percentage of carbon in low carbon steel is CO1- R
(a) 0.05% (b) 0.15% (c) 0.3% (d) 0.5%
2. The following element cant impart high strength at elevated temperature CO1- U
(a) Manganese (b) Magnesium (c) Nickel (d) Silicon
3. Material handling consists of movement of material from CO2-R
(a) One machine to another (b) One shop to another shop
(c) Stores to shop (d) All of the above
4. Fork lift truck is used for CO2-R
(a) Lifting and lowering (b) Vertical transportation
(c) Both (a) & (b) (d) None of the above
5. Which of the following alloy is the binding material in cemented carbides CO3- U
(a) Cobalt (b) Nickel (c) Iron (d) Vanadium
6. Hardness of upper bainite is about CO3- R
(a) RC65 (b) RC48 (c) RC57 (d) RC32
7. Alloy of copper and zinc is known as _____ CO4- U
(a) Brass (b) Bronze (c) Duralumin (d) Nichrome
8. Alloy of Ni and Fe is termed as _____ CO4- R
(a) Brass (b) Bronze (c) Duralumin (d) Invar

9. Which among the following is the characteristics of polymer? CO5- U
- (a) High tensile strength (b) High coefficient of friction
(c) Low density (d) All of the above
10. Which type of composite material the sandwich panels are? CO5- U
- (a) Structural (b) Fiber reinforced
(c) Partial reinforced (d) None of the above

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Discuss about heat treatment- (Recrystallization) CO1- U (8)
12. Explain the heat treatment hardening process of carburizing. CO2- U (8)
13. Explain the cast iron and its applications. CO3- U (8)
14. Compare between ferrous and non-ferrous metal. CO4-Ana (8)
15. Explain the properties of Polyethylene. CO5- U (8)

