

B.TECH. DEGREE EXAMINATION, MAY 2016**Fourth Semester****EN 010 402—PRINCIPLES OF MANAGEMENT**

(Common to AI, AU, EC, EI, IC, IT, ME, MT, PO, PE and ST branches)

[New Scheme—2010 Admission onwards]

{Regular/Improvement/Supplementary}

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Define Mission and its significance in management.
2. Define Quality circles.
3. What is CPM ? Give some applications.
4. What is the importance of working capital ?
5. List the methods of sales forecasting.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Explain the importance of delegation of authority in an organisation.
7. Explain on the significance of labour turnover.
8. Briefly explain product life-cycle.
9. Explain on elements of cost.
10. Write a note on the duties of sales engineer.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each full question carries 12 marks.

11. Write detailed notes on (a) Planning ; (b) Organizing ; and (c) Co-ordinating.

Or

12. Explain in detail on (a) Line organisation ; (b) Line and Staff organization.

Turn over

12. A small ship is fitted with jets of total area 0.65 m^2 . The velocity through the jet is 9 m/s and speed of the ship is 18 Kmph in sea water. The efficiencies of the engine and pump are 85% and 65% respectively. If the water is taken amid - ships, determine the propelling force and the overall efficiency, assuming the pipe losses to be 10% of the kinetic energy of the jets.
13. With the help of neat diagram explain the construction and working of a pelton wheel turbine.

Or

14. A Kaplan turbine working under a head of 20 m . develops 11772 kW shaft power. The outer diameter of the runner is 3.5 m . and hub diameter is 1.75 m . The guide blade angle at the extreme edge of the runner is 35° . The hydraulic and overall efficiencies of the turbines are 88% and 84% respectively. If the velocity of the whirl is zero at outlet, Determine: (i) Runner vane angles at inlet and outlet at the extreme edge of the runner and (ii) Speed of the turbine.
15. A centrifugal pump having outer diameter equal to two times the inner diameter and running at 1000 r.p.m . Works against a total head of 40 m . The velocity of flow through the impeller is constant and equal to 2.5 m/s . The vanes are set back at an angle of 40° at outlet. If the outer diameter of the impeller is 500 mm . and width at outlet is 50 mm . Determine (i) Vane angle at inlet, (ii) Work done by impeller per second and (iii) Manometric efficiency.

Or

16. (a) Explain the characteristics curve of a centrifugal pump.
(b) With a neat sketch, explain the principle and working of a multistage centrifugal pump.
(6 + 6 = 12 marks)
17. The pressure difference Δp in a pipe of diameter D and length L due to viscous flow depends on the velocity V , viscosity μ , and density ρ . using Buckingham's π -theorem, obtain an expression for Δp .

Or

18. Derive the expression for (Turbine) (i) Unit speed, (ii) Unit discharge, and (iii) Unit power.
19. The cylinder bore diameter of a single acting reciprocating pump is 150 mm . and its stroke is 300 mm . The pump runs at 50 r.p.m . and lifts water through a height of 25 m . The delivery pipe is 22 m . long and 100 mm . in diameter. Find the theoretical discharge and the theoretical power required to run the pump. If the actual discharge is 4.2 liters/s , find the percentage slip. Also determine the acceleration head at the beginning and middle of the delivery stroke.

Or

20. (a) With a neat sketch, explain the principle and working of a self priming pump.
(b) With a neat sketch, explain the principle and working of a fluid coupling.

(6 + 6 = 12 marks)

[5 × 12 = 60 marks]

