

2013

April 2025

Time - Three hours
(Maximum Marks: 100)

(N.B.)

1. Answer any fifteen questions under Part-A. All questions carry equal marks. (15X2=30)
2. Answer all questions, choosing any two sub-divisions from each question under Part-B. All questions carry equal marks. (5X14=70)(7+7)

PART - A

1. What is the job description of mechanical engineer?
2. Write about the role of mechanical engineer in maintaining product quality.
3. Write any two heavy vehicle manufacturers in India.
4. List any two reasons for the maintenance of machineries.
5. List the types of engineering materials.
6. Write the advantages of hot working process.
7. Draw the sketch of wire drawing process.
8. List the types of permanent joints.
9. Write about the functions of lathe.
10. Write the principle of milling.
11. List any two applications of CNC machine.
12. List the types of drilling machines.
13. Write the applications of rope drive.
14. Write the advantages of worm and worm wheel drive.
15. Mention any two properties of lubricants.
16. What are the types of lubricants?
17. List any two modes of heat transfer.
18. Write about IC engine.
19. List any two the advantages of BEV.
20. List any four components of steam power plant.

PART- B

21. (a) Explain the roles and responsibilities of a mechanical engineer for the following sectors:
(i) Power generation
(ii) Logistics
(b) Explain the scope and opportunities of a mechanical engineer in manufacturing sector.
(c) Describe the 5 R's of material management.
22. (a) Write about electric and magnetic properties of engineering materials.
(b) Explain the working of a roll forging operation with a neat sketch.
(c) Explain the construction and working of mechanical press with a neat sketch.
23. (a) Draw a neat sketch of lathe and label its parts.
(b) Discuss about upright drilling machine with a neat sketch.
(c) Explain the construction and working of horizontal milling machine with a neat sketch.
24. (a) Explain about flat belt and V-belt drive with a neat sketch.
(b) Explain the construction and working of rack and pinion drive with a neat sketch.
(c) Explain about drip feed lubrication process with neat sketch.
25. (a) Explain the working of four stroke diesel engine with neat sketch.
(b) Explain the working of vertical axis windmill with a neat sketch.
(c) Discuss about nuclear power plant with a layout diagram.
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