

201

April 2024

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 material management?
2. List out the importance of power generation.
3. Mention the role of design engineer.
4. What is the aim of maintenance and service?
5. List out any three thermal properties of copper.
6. Compare hot working with cold working.
7. Write about wire drawing process.
8. Differentiate temporary joints and permanent joints.
9. List out any four operations done on a lathe.
10. Write down the principle of drilling.
11. Mention the uses of coolant in drilling process.
12. Write the types of milling machines.
13. Mention the applications of rope drives.
14. Write about cam drive.
15. Write down the purposes of lubrication.
16. List out the methods of lubrication.
17. Write down the advantages of CNC machining.
18. What is additive manufacturing?
19. What is SLS?
20. What is meant by slicing in AM?

[Turn over...]

PART- B

21. (a) Explain the scope and opportunities for mechanical engineer in manufacturing sector.
 - (b) Describe the roles and responsibilities of a mechanical engineer in automobile sector.
 - (c) Explain the scope and opportunities for mechanical engineer in design field.
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22. (a) Explain any three mechanical properties of mild steel.
 - (b) Explain the working of extrusion process with a neat sketch.
 - (c) Explain: (i) Soldering (ii) Brazing (iii) Riveting.
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23. (a) Explain the working principle of lathe with a neat sketch.
 - (b) Draw and explain the construction of upright drilling machine.
 - (c) Describe the construction and working of vertical milling machine with a neat sketch.
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24. (a) Explain about V-belt drive and state its advantages and disadvantages.
 - (b) Explain about spur gear drive with a neat sketch.
 - (c) List out and explain the properties of lubricants.
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25. (a) Explain the construction and working of a CNC machine.
 - (b) Explain about Fusion Deposition Modelling with a neat sketch.
 - (c) Explain the applications of AM technologies in automotive, manufacturing and healthcare sectors.
