663 Register No.:

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. Define manufacturing.
2. What is the importance of logistics in mechanical engineering?
3. Write any four automotive industries in India.
4. Define quality.
5. Write the types of engineering materials.
6. Define hot working.
7. Differentiate temporary and permanent joints.
8. What is Brazing?
9. What is the principle of lathe?
10. Define CNC.
11. Write the applications of CNC system.
12. List the types of drilling machines.
13. List the types of belt drives.
14. Draw the cross section of V- belt.
15. What is a cam drive?
16. List any four solid lubricants.
17. List the types of heat transfer.
18. Define ignition.
19. Give any two Electric car models in India.
20. Define heat.

[Turn over...

PART- B

21. (a) Explain the roles and responsibilities of a mechanical engineer.

(b) Explain the scope and opportunities of a mechanical engineer.

(c) Describe the 5 R's of material management.

22. (a) Explain the various chemical and thermal properties of materials.

(b) Explain the working of a drop hammer with a neat sketch.

(c) Explain about various temporary joints.

23. (a) Draw a neat sketch of a lathe and label its parts.

(b) Explain the components of a CNC system with neat sketch.

(c) Compare vertical milling machine and horizontal milling machine.

24. (a) Explain about helical gear drive and bevel gear drive.

(b) Mention the purpose of lubrication. List the properties of lubricants.

(c) Explain grease cup lubrication with neat sketch.

25. (a) Explain the working of four stroke petrol engine with neat sketch.

(b) Explain about Horizontal axis wind mill.

(c) Draw the layout of a battery electric vehicle (BEV) and explain its main components.
