

Register No.:

942

April 2024

Time – Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. How ball bearings are designated?
2. What is meant by friction bearings?
3. What is timing belt?
4. List any three advantages of chain drive.
5. List any three applications of helical gears.
6. List the uses of gear drive.
7. Mention the difference between couplings and clutches.
8. What is rigid coupling?
9. What is re-circulating roller screw?
10. Write about cylindrical guide ways.

[Turn over.....

PART – B

11. (a) (i) Explain about ball bearing with sketch.
(ii) Explain about taper roller bearing with sketch.
(Or)
- (b) (i) Describe any one method used for dismantling and assembly of antifriction bearings with neat sketch.
(ii) Explain any one type of failure in bearing and their causes and remedies.
12. (a) Describe the procedure for installation and removal of pulley.
(Or)
- (b) (i) Discuss about the care and maintenance of sprockets.
(ii) Describe the procedure for lubrication of chain drives.
13. (a) Explain the different types of gear drives with neat sketch.
(Or)
- (b) (i) Explain any one method of lubrication of gear drives.
(ii) Describe the procedure for alignment of any one gear drives.
14. (a) (i) Describe the procedure for eliminating parallel misalignment during installation of coupling with neat sketch.
(ii) Explain the procedure for care and maintenance of brakes.
(Or)
- (b) (i) Explain the procedure for care and maintenance of clutches.
(ii) Describe the procedure for eliminating angular misalignment during installation of coupling with neat sketch.
15. (a) (i) Explain about mechanical transmission system with neat sketch.
(ii) Discuss about mounting ballscrew shaft with bearings.
(Or)
- (b) (i) Explain the ball screw mechanism used in CNC machines with neat sketch.
(ii) Explain Linear bearings with balls used in CNC machines with neat sketch.
