

Roll No

MMTP-205**M.E./M.Tech. II Semester**

Examination, December 2017

Maintenance of Thermal Power Plant*Time : Three Hours**Maximum Marks :70*

- Note :* i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What are the inputs of a systematic selection process for the selection of a maintenance system best suited for an industry?
b) Describe how stores management can help in keeping a better spare parts inventory.
2. a) What is the predictive maintenance and what are its advantages and disadvantages?
b) List the machine health monitoring techniques, and explain any one of them with suitable example.
3. a) Discuss the modes of lubrication in different types of bearings.
b) What do you understand by hydrodynamic lubrication? Write assumptions used in the theory of hydrodynamic lubrication.

4. a) Describe with example the failure mechanisms in metallic material.
b) Discuss the failure mode in a bearing which used in a steam turbine shaft.
5. a) List various components of thermal power plants and write probable causes of failure of such components.
b) Explain with neat sketch the working of cooling tower and suggest its maintenance schedule.
6. a) What are the hazard and risk analysis you will conduct for a thermal power plant? Discuss in brief.
b) State whether you will adopt vibration condition monitoring or thermography in gas turbine power plant. Which is the most appropriate method? Substantiate your answer.
7. a) Discuss the different properties of lubricants, and write its applications.
b) What do you understand by vibration and noise monitoring? Describe the method in logical steps and its relevance in plant condition monitoring.
8. Write short notes on the followings: (any four)
 - a) Non-destructive testing
 - b) Environmental effects on lubrications.
 - c) Fault-tree failure analysis
 - d) Erosion in turbine blade
 - e) Residual stresses in metal
 - f) Thermography
