



KINGS

COLLEGE OF ENGINEERING



DEPARTMENT OF MECHANICAL ENGINEERING

SUB. CODE / NAME: ME -1012/ MAINTENANCE ENGINEERING

YEAR/SEM: IV/VIII

QUESTION BANK

UNIT-I -PRINCIPLES AND PRACTICES OF MAINTENANCE PLANNING

PART-A (2 Marks)

1. What is meant by maintenance planning
2. What are the objectives of maintenance
3. What are the principles of planned maintenance activity
4. What are the benefits of sound maintenance system
5. Define machine availability
6. What are the factors for availability?
7. Give the types of maintenance organization
8. What are the sources of maintenance cost?
9. What is meant by MTBF and MTTR
10. Define Reliability

PART-B (16 Marks)

1. What do you mean by maintenance job planning? Discuss various steps of maintenance job planning.
2. What is long term plan? Discuss few long term planning?
3. What are the objectives of maintenance organization and what different types of organizations are in use in Indian industries?

4. What is equipment availability and what are the three basic approaches to define and quantity availability.
5. Explain MTBS, MTBF, MTTF, MTTR and failure rate?
6. Explain briefly different types and classes of maintenance cost

UNIT-II -MAINTENANCE POLICIES – PREVENTIVE MAINTENANCE

PART-A (2 Marks)

1. What are the types of maintenance?
2. Differentiate brake down and preventive maintenance.
3. Give the merits of condition based maintenance.
4. What is meant by Give routine maintenance
5. List the purpose of lubrication
6. What is meant by maintenance schedule
7. Explain repair cycle
8. What is TPM? Give the benefits
9. Give the eight pillars of TPM
10. What is meant by risk based maintenance

PART-B (16 Marks)

1. What do you understand by maintenance categories? Explain common types and explain the basis of their selection.
2. What are all the steps involved in preventive maintenance why preventive maintenance is better than reactive maintenance.
3. Distinguish between fixed time maintenance and connect based maintenance. Give the merits and demerits.
4. Briefly explain the procedure for TPM.

5. Explain the repair cycle of metallic materials.
6. What are the functions of lubrication and gives the tips on lubrication

UNIT-III -CONDITION MONOTORING

PART-A (2 Marks)

1. Define condition monitoring
2. What are the advantages of condition monitoring?
3. What are the techniques used in condition monitoring
4. What are the instruments used in condition monitoring
5. Differentiate on load testing and off load testing.
6. What are the causes of vibration?
7. How to analyze the vibration?
8. How to identify the cracks?
9. What is the use of correction monitoring
10. Why the temperature monitoring is necessary

PART-B (16 Marks)

1. What is condition monitoring and explain condition monitoring What type of condition monitoring are normally used in industry
2. What is leakage monitoring ?Explain some of the leakage mediums used for condition monitoring
3. What is wear debris analysis what are the three wear debris analysis techniques commonly used and compare their performance and uses?
4. Briefly explain the cost comparison with and without condition monitoring

5. What is thermal monitoring and what thermal monitoring are used in industries Explain principle and uses of thermograph
6. Briefly explain various methods and instruments for condition monitoring

UNIT-IV -REPAIR METHODS FOR BASIC MACHINE ELEMENT

PART-A (2 Marks)

1. Define repair
2. What are the repair methods for lathe bed
3. How to repair broken gears
4. What is meant by failure development
5. Define failure analysis
6. What are the methods for fault location
7. How to repair spindle
8. What re the repair methods for bearing and slide ways
9. What is meant by sequential fault location
10. How to maintain broken lead screw.

PART-B (16 Marks)

1. Briefly explain the repair methods of machine beds.
2. Explain the repair method of worn-out bearing.
3. Explain the repair methods of slide ways and spindle.
4. Briefly explain the procedure for the repair cycle of gears and lead screw.
5. What is failure analysis? Explain their development.
6. Explain the logical fault location methods.

UNIT-V –REPAIR METHODS FOR MATERIAL HANDLING EQUIPMENTS

PART-A (2 Marks)

1. List the various materials handling equipment.
2. What is the general fault encountered in crane?
3. Differentiate elevator and conveyor.
4. List the fault in belt conveyors.
5. What are the uses of computer in maintenance
6. What is meant by equipment records?
7. Give advantages of job order system.
8. How to maintain rope and chain.
9. Give the name of automobile used for material handling in Iindustry.
10. Name the hydraulic equipment used in material handling purpose?

PART-B (16 Marks)

1. Explain repair methods of conveyors.
2. Explain the repair methods for crane and hydraulic lift.
3. Briefly explain the equipment record.
4. Explain job order system.
5. Explain various hydraulic and pneumatic equipment used in material handling purpose.
How to maintain it.
6. Explain the maintenance procedure for various small equipment for material handling purpose like chain block, chain, rope, trolley and R.G.B.