

Register Number:

B.E or B.TECH DEGREE EXAMINATIONS: APRIL 2014

(Regulation 2009)

Eighth Semester

MECHATRONICS ENGINEERING

MCT151: Total Productive Maintenance Management

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. _____ is the measure of the system or device to be retained in or restored to specific conditions.
 - a) Durability
 - b) Maintainability
 - c) Conditioning monitoring
 - d) Availability
2. _____ is the actual time that the machine or system is capable of production as a percent of total planned production time.
 - a) Maintainability
 - b) Availability Reliability
 - c) Availability
 - d) Vibration monitoring
3. Aim of preventive maintenance is to
 - a) Eliminate breakdown.
 - b) Eliminate waste.
 - c) Prevent pollution.
 - d) Zero defect.
4. Under this policy, all the items are replaced after certain time period
 - a) Sampling.
 - b) Probability.
 - c) Individual.
 - d) Group replacement.
5. Sorting and organizing the items is called
 - a) Seiri.
 - b) Seiso.
 - c) Shitsuke.
 - d) Seiton.
6. The pillar of TPM aims at developing operators capable of taking care small maintenance themselves
 - a) Autonomous maintenance.
 - b) 5S.
 - c) KAIZEN.
 - d) Office TPM.
7. It is one of spare parts management method.

- a) Three bin system
 - b) Two bin system
 - c) MAP
 - d) QMS
8. _____ is used for maintenance planning activities.
 - a) JIT
 - b) Kanban system
 - c) EOQ
 - d) PERT/CPM
9. Which one of this is corrosion monitoring technique?
 - a) Electrical resistance method
 - b) Acoustic method
 - c) Sentinel hole method
 - d) Flow detection method
10. Which one of this used to measure vibration?
 - a) Viscosity
 - b) Inductance
 - c) Capacitance
 - d) Amplitude

PART B (10 x 2 = 20 Marks)

11. Explain reliability centered maintenance.
12. Explain Tero technology.
13. List the objectives of preventive maintenance.
14. Define maintenance scheduling.
15. Write the objectives of TPM.
16. Define OEE.
17. List the major functions of maintenance planning.
18. Explain work order planning
19. List down the key features of conditioning monitoring.
20. List some of the wear debris analysis method.

PART C (5 x 14 = 70 Marks)

21. a) List the 5 steps to achieve reliability centered maintenance and explain them with an example
- (OR)**
- b) What is the relationship between corrective and preventive maintenance cost? Discuss the overall relationship of effectiveness and costs.
22. a) Draw a flow chart for preventive maintenance execution and explain them.

(OR)

b) With illustrations explain the different replacement models in maintenance.

23. a) (i) Explain the TPM implementation process with neat diagram. (10)

(ii) Explain Zero breakdowns. (4)

(OR)

b) Discuss in detail the elements of KAIZEN & explain the factors contributing for a successful KAIZEN.

24. a) (i) Explain the maintenance planning & scheduling activity. (8)

(ii) Discuss the concept of simulation in maintenance. (6)

(OR)

b) Explain the use of computers and other hardware's in spare parts management

25. a) Explain the fundamental steps of Condition monitoring and the process of Condition monitoring

(OR)

b) What are the causes of vibration? How to measure vibration and Discuss the vibration monitoring techniques.
