Reg. No. :

Question Paper Code:49717

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Mechanical Engineering

14UME917 MAINTENANCE ENGINEERING

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

(Answer all Questions)

1. Output of maintenance system is   CO1- R

   (a) Production   (b)Operational Readiness

   (c)Work done   (d)None of the above

2. The ratio of the number of times we can expect an event to occur to the   CO1- R
   total number of trail undertaken is known as

   (a) Adequate performance acquirements   (b) Duration of adequate performance

   (c) Reliability expressed as probability   (d) Environmental or operating conditions

3. What is the objective of preventive maintenance?   CO2- R

   (a) To minimize the number of break downs on critical equipment

   (b) To increase the productive life of all capital equipment

   (c) Both a & b

   (d) none

4. Purpose of material handling is to   CO2- R

   (a) Improve productivity   (b) Reduce work fatigue

   (c) Promote plant safety   (d) All of these

5. Thermistor is used to measure the   CO3- R

   (a) Temperature rise   (b) Temperature fall   (c) Temperature change   (d) All the above

6. Salary of workmen is   CO3- R

    (a) Fixed cost   (b) Variable cost

    (c) Semi variable cost   (d) All of these

7. Engine oil should possess a property of   CO4- R

    (a) Low viscosity index   (b) High oxidation stability

    (c) High pour point   (d) None of the above

8. Risk priority number is the   CO4- R

    (a) Sum of severity, occurrence, detection ratings

    (b) Product of safety factor, occurrence, detection ratings

    (c) Sum of safety factor, occurrence, detection ratings

    (d) Product of severity, occurrence, detection ratings

9. Which one of the following is not a material handling equipment   CO5- R

    (a) Fork lift   (b) Conveyors   (c) Crane   (d) None of the above

10. Objective of maintenance is   CO5- R

    (a) To fix breakdowns   (b) To improve productivity

    (c) To optimize equipment availability   (d) None of these

PART – B (5 x 2= 10Marks)

11. Define Reliability.   CO1- R

12. Write short notes on Repair Cycle.   CO2- R

13. What is Wear – debris analysis?   CO3- R

14. List any four bearing failures.   CO4- R

15. Write the benefits of computerized maintenance management system.   CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Sketch the maintenance organization structures which are   CO1-App   (16)
         applicable for manufacturing industries.

                                    Or

    (b) Illustrate the different types and classes of maintenance   CO1-App   (16)
         organization.

17. (a) List the steps to be taken up to adopt TPM in an industry and   CO2-App   (16)
         describe the pillars of TPM.

                                    Or

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(b) Explain the types of maintenance in detail. CO2-U (16)

18. (a) Explain On-load testing and Off-load testing in condition CO3-App (16)
monitoring.

Or

(b) Briefly explain various methods and instruments for condition CO3-App (16)
monitoring.

19. (a) As a maintenance engineer describe the steps involved to perform CO4-U (16)
the FMEA

Or

(b) Describe the repair methods for machine beds and gear wheels CO4-Ana (16)
with appropriate sketches.

20. (a) Briefly explain the preventive maintenance strategies for cranes CO5-U (16)

Or

(b) Explain the integrated structure of computerized maintenance CO5-U (16)
management system (CMMS) in detail.

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