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**Question Paper Code: 49717**

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Mechanical Engineering

14UME917 MAINTENANCE ENGINEERING

(Regulation 2014)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

**(Answer any six of the following questions)**

1. What is the third phase of equipment life cycle? CO1- R  
(a) Intrinsic      (b) Design defect      (c) Wear out failure      (d) None of the above
2. The ratio of the number of times we can expect an event to occur to the total number of trial undertaken is known as CO1- R  
(a) Adequate performance acquisitions      (b) Duration of adequate performance  
(c) Reliability expressed as probability      (d) Environmental or operating conditions
3. Which one is not a classification of maintenance CO2- R  
(a) Corrective maintenance  
(b) Timely maintenance  
(c) Scheduled maintenance  
(d) Preventive maintenance
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. Wear debris analysis is related to CO3- R  
 (a) Oil analysis (b) Temperature analysis  
 (c) Pressure analysis (d) None of the above
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. Computerized Maintenance Management System includes CO5- R  
 (a) development of a database (b) analysis of available part records  
 (c) feedback control system (d) all the above

PART – B (3 x 8= 24 Marks)

**(Answer any three of the following questions)**

11. Show the various objectives of maintenance planning. Derive the expression for determining Mean Time To Failure (MTTF). CO1-App (8)
12. What are all the steps involved in preventive maintenance why preventive maintenance is better than reactive maintenance. CO2-App (8)
13. Explain condition monitoring and What types of condition monitoring are normally used in industry, why? CO3-App (8)
14. Discuss in detail about the procedure for the repair cycle of gears and lead screw. CO4-U (8)
15. Explain repair methods of conveyors. CO5-U (8)