Marks Scored:

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2018

Level : B.E.
Year : IV
Course : MEPP 408
Semester : II

Exam Roll No. :
Time: 30 mins.
F. M. : 20

Registration No.:
Date : JUN 2 1 2018

SECTION "A"
[20 Q. × 1 = 20 marks]

Attempt *ALL* the questions. (Select and mark [X] for most appropriate answer).

1. Lack of ductility is called as
   [ ] Hardness
   [ ] Elasticity
   [ ] Creep
   [ ] Brittleness

2. Inspection techniques which must take prior to, during , after welding
   [ ] Liquid penetrant testing
   [ ] Ultrasonic testing
   [ ] Radio graphic testing
   [ ] Visual inspection

3. Total time in which penetrant is in direct contact with test specimen
   [ ] Soak time
   [ ] Baking time
   [ ] Dwell time
   [ ] Immersion time

4. Which of the following are ferromagnetic materials ?
   [ ] Aluminum, iron, copper
   [ ] Iron, copper , nickel
   [ ] Copper, aluminum, silver
   [ ] Iron, cobalt, nickel

5. By increasing the frequency of gamma photon, its
   [ ] wavelength will increase
   [ ] velocity will increase
   [ ] Wavelength will decrease
   [ ] velocity will decrease

6. Ability of locating a flaw or defect is defect is defined by
   [ ] Frequency and size
   [ ] Space and time
   [ ] Sensitivity and penetrating intensity
   [ ] Sensitivity and Resolution

7. Inductance is caused by
   [ ] Direct current
   [ ] Resistance in the coil
   [ ] Materials
   [ ] Interaction of changing magnetic field material with conductor

8. The ____ goes on increasing with the increase in degree of maintenance efforts.
   [ ] Cost of down time
   [ ] Cost of spares and maintenance
   [ ] Labour and Overhead Cost
   [ ] Cost of uptime

9. With the increase in preventive maintenance cost, breakdown maintenance cost
[ ] Increases
[ ] Decreases
[ ] Remain same
[ ] A exponential increase

10. Total productive maintenance aims at
[ ] Less idle time
[ ] Increase in productivity
[ ] Zero down time
[ ] More Uptime

11. (Down time in hours / Available hours) =
[ ] Maintenance effectiveness
[ ] Frequency of breakdown
[ ] Effectiveness of maintenance planning
[ ] Effectiveness of Inventory

12. Changes are made to the system to reduce the future system failure chances is called
[ ] Preventive Maintenance
[ ] Adaptive Maintenance
[ ] Corrective Maintenance
[ ] Perfective Maintenance

13. The New modules, that are need to be replaced or modified, and they are also designed against requirement specifications set in the previous stage is
[ ] Acceptance testing
[ ] System Testing
[ ] Delivery
[ ] Design

14. Which includes modifications and updating done in order to correct or fix the problems, which are either discovered by user or concluded by user error reports?
[ ] Perfective maintenance
[ ] Adaptive maintenance
[ ] Corrective maintenance
[ ] Preventive maintenance

15. Difficult to monitor and very dangerous form of corrosion
[ ] Galvanic
[ ] Pitting
[ ] Crevice
[ ] Stress

16. The type of bearing used in crankshaft is
[ ] Plain bearing
[ ] Roller bearing
[ ] Ball bearing
[ ] Magnetic bearing

17. In which of the following drives, there is no slip
[ ] Open belt drive
[ ] Crossed belt drive
[ ] Rope drive
[ ] Chain drive

18. Which of the following coupling is used to connect two shafts which have both lateral and angular misalignment?
[ ] Flanged coupling
[ ] split coupling
[ ] Oldham coupling
[ ] Keyed coupling

19. What happens to the reciprocating pump when left untouched?
[ ] Efficiency decreases
[ ] Wear and tear
[ ] Surface expansion
[ ] Pressure change

20. The energy usage of a pump is determined by
[ ] Adiabatic expansion
[ ] Power required
[ ] Adiabatic compression
[ ] Isentropic expansion

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Level : B.E.
Year : IV
Time : 2 hrs. 30 mins.

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Semester: II
F.M. : 55

SECTION "B"

Attempt *ALL* the questions.

1. Explain the operating life cycle taking the example of 800cc car. [5]

2. List out the performance parameter in Maintenance. [5]

3. Discuss the relationship between Reliability, Maintainability and Availability. [5]

4. Prepare a typical materials management manual for auto maintenance shop. [5]

5. Explain the concepts or philosophies, which make the TPM as superior maintenance system over reliability – centered maintenance and conditions based maintenance. [5]

6. How coupling is classified. Explain each coupling with neat diagram. [5]

7. Explain the test that is performed in used lubricant. [5]

8. How valve are classified? Explain. [5]

9. List the causes of failure in an electromechanical system like compressors, pumps and elevators. [7]

10. How can you find defect in bearings? What are the remedial actions that should be undertaken to minimize the failure of bearing? Give example for each type of bearing failure. [8]