

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Summer Examination-2022

Subject Name: Plant Engineering and Maintenance

Subject Code: 4TE08PEM1

Branch: B.Tech (Mechanical)

Semester: 8

Date: 04/05/2022

Time: 11:00 To 02:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1

Attempt the following questions:

(14)

- (a) Maintenance consist of the following action(s)
 - (a) Replacement of component
 - (b) Repair of component
 - (c) Service of component
 - (d) All of these
- (b) The following is not a classification of maintenance
 - (a) Corrective maintenance
 - (b) Timely maintenance
 - (c) Scheduled maintenance
 - (d) Preventive Maintenance
- (c) For good natural ventilation, the _____ type of building preferred
 - (a) Flat roof
 - (b) Saw tooth
 - (c) Highbay
 - (d) Monitor
- (d) "Space available in vertical and horizontal directions is most effectively utilized" is known as principle of
 - (a) Cubic space utilization
 - (b) Flexibility
 - (c) Flow
 - (d) Minimum distance
- (e) The following type of layout is preferred for low volume production of non standard products
 - (a) Product layout
 - (b) Process layout
 - (c) Fixed position layout
 - (d) Combination layout
- (f) The objective of good layout is to
 - (a) Reduce production
 - (b) Reduce wastages
 - (c) Reduce productivity
 - (d) Reduce labor
- (g) Which of the following is an advantage of product layout?
 - (a) Breakdown of one machine may lead to complete stoppage of production line
 - (b) Investment again increases to provide standby machines
 - (c) Less floor area required per unit of production
 - (d) More production that the capacity of the line cannot be obtained
- (h) Condition monitoring is the basis for _____ maintenance.
 - (a) Preventive
 - (b) Shutdown
 - (c) Breakdown
 - (d) Predictive
- (i) Minor repairing can done under
 - (a) Periodic maintenance
 - (b) Breakdown maintenance
 - (c) Routine maintenance
 - (d) Preventive maintenance
- (j) Which pillar of TPM focuses on routine maintenance?
 - (a) Training and education
 - (b) Just-in-time
 - (c) 5S
 - (d) Autonomous maintenance



- (k) _____ maintenance is regular period planned maintenance which eliminates breakdown and outages.
 (a) Routine (b) Preventive (c) Corrective (d) Operation
- (l) Which method is used for selection of replacement?
 (a) MAPI method (b) Annual cost method
 (c) Total life average method (d) All of above
- (m) To gives us knowledge for keeping the machine plants & process equipment in there efficient condition, the maintenance activities are planned & carried out is known as:
 (a) Industrial engineering (b) Automobile engineering
 (c) Production engineering (d) Maintenance engineering
- (n) Which of the following color is used for radiation hazard?
 (a) Red (b) Orange (c) Green (d) purple

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions**
- (a) How do you classify fire? What are the measures you suggest to control fire hazards in buildings? (07)
- (b) What is the preventive maintenance? Explain its importance. (07)
- Q-3 Attempt all questions**
- (a) Describe the different types of organizations with suitable example. (07)
- (b) Write & explain seven steps for approach of life cycle costing implementation. (07)
- Q-4 Attempt all questions**
- (a) Sanitation is a contemporary problem in industry for disposal of waste. Discuss and how can we achieve sanitation targets. (07)
- (b) Write different methods to control the industrial noise. (07)
- Q-5 Attempt all questions**
- (a) Explain different types of plant layout. (07)
- (b) Explain in detail various Pillars of Total Productive Maintenance. (07)
- Q-6 Attempt all questions**
- (a) Write a short note on manpower and what are the steps employed for manpower planning. (07)
- (b) Discuss Pareto chart and write the steps to prepare Pareto chart. (07)
- Q-7 Attempt all questions**
- (a) Discuss plant ventilation and its methods and write the design guidelines for natural ventilation (07)
- (b) Classify types of maintenance and write merits and demerits of each. (07)
- Q-8 Attempt all questions**
- (a) State various principles influencing for plant layout planning. (07)
- (b) Explain in detail Condition Monitoring for maintenance management practice. (07)

