

Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech (FT)/SEM-8/FT-802A/2010

2010

PLANT MAINTENANCE, SAFETY & HYGIENE

Time Allotted : 3 Hours

Full Marks : 70

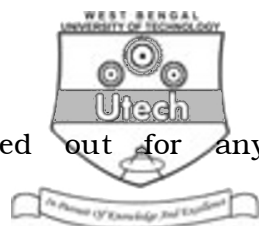
The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) Food safety is the condition and practice to protect food from
 - a) Pathogenic microorganisms
 - b) Chemical contaminants
 - c) Naturally occurring toxic substances
 - d) All of these.
 - ii) Provision of disinfection facilities for food production personnel is required
 - a) Prior to entry into food processing areas
 - b) After entry into food processing areas
 - c) While going out of food processing areas
 - d) Only when coming out of toilets.



- iii) Maintenance is an activity carried out for any equipment to ensure
 - a) Repair of the equipment that has failed
 - b) To keep the equipment running
 - c) To ensure its reliability to perform its function
 - d) All of these.
- iv) Safety belt is required to be worn and tied off when working on
 - a) Sloping roofs
 - b) Flat roofs
 - c) Any suspended platform
 - d) All of these.
- v) 5s is a methodology based on
 - a) People oriented approach
 - b) Practice oriented approach
 - c) Both (a) and (b)
 - d) None of these.
- vi) *Salmonella typhosa* produces
 - a) Exotoxin
 - b) Endotoxin
 - c) Both (a) and (b)
 - d) No toxin.
- vii) The method of bacterial attack by quaternary ammonium compound is such that
 - a) the cells are starved
 - b) the cells are internally poisoned
 - c) both (a) and (b)
 - d) non of these.



viii) Safety can be accomplished by

- a) Taking action
- b) Performing the daily task in the safe manner
- c) Protecting people and equipment from hazard
- d) All of them.

ix) Sort out the odd answer :

The essential features of personal protective equipment should be

- a) No restriction on essential movements
- b) Maximum comfort minimum weight
- c) Protect only from gaseous contaminations immediately dangerous to life
- d) Durability and susceptibility on the premises where it is used.

x) Maximum accidents are caused due to

- a) Mechanical failure b) Human failure
- c) Acts of nature d) Lack of safety audit.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Discuss the scope of preventive maintenance activities and indicate the benefits out of it.
3. Give a guide-lines for good maintenance and discuss the safety precautions required during maintenance.
4. Indicate the merits and demerits of commercially available sanitizer/disinfectants.
5. What are the sources of food contamination & differentiate between food intoxication and food infection with examples.
6. What are the general duties which have been fixed on the occupiers as per Factory Act ?
7. Discuss on the environmental pollution and control devices of air pollution.



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.

3 × 15 = 45

8. a) What are the functions of safety committee and what are the guidelines for them. What are unsafe actions and how will you prepare an accident investigation report ? 8
- b) What is the cost of safety and what are the safety promotional activities ? 7
9. a) What should be the characteristics of cleaning compounds and what are their functions ? 7
- b) Differentiate between sanitizer and disinfectant with example. How to choose a method requiring sanitation ? How sanitizers exert their germicidal activity ? 8
10. a) What are the functions of the staff manning the maintenance service ? On what factors the selection of lubricant depends ? What does the lubricating oil consists of ? What are the important properties of grease for the user ? Indicate the function of the lubricating medium in a rolling bearing. 7
- b) What is 5s and what are the signs that a manufacturing facility may be in need of a 5s programme ? Indicate the crucial points for successful implementation of 5s. 8
11. a) Indicate the basis elements of a sanitation programme for food processing and food handling operation. 8
- b) Indicate the three alternate approaches to maintenance for any given asset. What are the methods for corrosion prevention ? 7

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