

CP-6449

Sub. Code

11

DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

COMMUNICATIVE ENGLISH

Time : 3 Hours

Maximum : 75 Marks

Part A

(5 × 3 = 15)

Answer **all** questions.

1. Describe a Circular.
2. What is a Check List?
3. What is Interpersonal Communication?
4. Are punctuation marks necessary? Why?
5. Write any three tips for a good presentation?

Part B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Write an essay on the importance of Letter Writing.

Or

- (b) How does written communication promote business relations?

7. (a) Mention the ways in which you can create a good impression in office.

Or

- (b) Examine the significance of check lists.

8. (a) Discuss the formats of Communication.

Or

(b) Differentiate between group and functional Communication categories.

9. (a) How does grammar, punctuation and mechanics contribute to Communication?

Or

(b) Enlist the requirements of a good presentation.

10. (a) Suggest any ten tips for Resume writing.

Or

(b) What are the various types of selection interviews?

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12

DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

BASICS OF SAFETY MANAGEMENT

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. What is lone and staff functions of safety?
2. Write the principles of accident prevention.
3. Differentiate : FR and SR.
4. What is safety Communication?
5. Define : Safety Audit.

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Explain :
 - (i) Safety organization
 - (ii) Safety program
 - (iii) Safety Committee
 - (iv) Safety Promotion.

Or

- (b) Explain :
 - (i) Safety Planning
 - (ii) Safety inspection.

7. (a) Write about accident investigations and analysis.

Or

- (b) Explain : Cost of Accidents.

8. (a) Define :

- (i) Frequency rate
- (ii) Severity rate.
- (iii) Frequency Severity incidence.

Or

- (b) Explain : FR and SR.

9. (a) Write about the awards and celebrations of safety training.

Or

- (b) Write about what is safety training and the importance of safety training.

10. (a) Discuss the objectives, advantages and scope of safety audit elaborated.

Or

- (b) What are the identification of usage acts of workers and usage conditions? Explain well.

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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

SAFETY EQUIPMENTS AND PROCEDURES

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. Expand “PPE” and Write the IS code for PPE.
2. Write a note on NRV and PRY?
3. Define Fire Axe.
4. Write short note on ear protection.
5. Write note on fall arrester.

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Describe about the purchase guidelines for personal protective equipments.

Or

- (b) Discuss the maintenance methods of PPE and safety equipments.

7. (a) Define the following.
- (i) Wrench tripod
 - (ii) Shock absorber
 - (iii) Dosi meter
 - (iv) Fall arrester.

Or

- (b) Explain briefly “Lifting Tools of Tackles” used for material handling.
8. (a) Briefly discuss about the heat detector, flame detector.

Or

- (b) Describe with details of Nozzles and Sprinklers.
9. (a) What is non respiratory of personal protection equipments? Explain.

Or

- (b) Mention any three types of air suppliers.
10. (a) Compare the active fall protection with passive fall protection in detail.

Or

- (b) What do you mean by the safety harness? Explain about half body harness and full body harness.

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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

ENVIRONMENTAL STUDIES

Time : 3 Hours

Maximum : 75 Marks

Part A

(5 × 3 = 15)

Answer **all** questions.

1. Write the effects of ozone depletion.
2. Define incineration.
3. Distinguish between adsorption and absorption.
4. List out the industries that cause major air pollution problems.
5. What is meant by sampling?

Part B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Define air pollution and explain classification of air pollution with suitable examples.

Or

- (b) Briefly explain about the effects of air pollution on human being and plants.

7. (a) Enumerate the salient points about efficient quality standards are related laws applicable to chemical industries.

Or

- (b) Discuss briefly about different industrial effluents and their treatment and disposal.
8. (a) Explain the methods of collection and disposal of solid wastes.

Or

- (b) Discuss the causes and effects of radio active waste pollution in detail.
9. (a) Describe briefly about “Gas chromatograph” and “Atomic absorption spectrometer” used in the measurement and control of air pollution.

Or

- (b) Draw the “cyclone separators” showing the design proportions and explain its working principle, advantage and limitations.
10. (a) Write a brief note on control of air pollution in the following industries with a neat sketch.
- (i) Coal base thermal power plant. (6)
- (ii) Cement manufacturing plant. (6)

Or

- (b) Describe the various methods of pollution control measures employed in “Dying and pigment industries”.

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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

INDUSTRIAL SAFETY MANAGEMENT

Time : 3 Hours

Maximum : 75 Marks

Part A

(5 × 3 = 15)

Answer **all** questions.

1. Expand LPG, LNG and CNG.
2. Explain the term 'Zero mechanical state' (ZMS).
3. Explain safety precautions to be adopted during brazing.
4. Explain heat treatment operations.
5. What are the salient features of OSHAS 18001?

Part B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Explain the factors to be considered in selecting plant location.

Or

- (b) Explain the types of power station.

7. (a) Explain the types of machine guarding.

Or

- (b) Discuss the benefits of good guarding system.

8. (a) Define welding. Explain the types of welding and discuss the safety measures needed for it.

Or

- (b) (i) Write short notes on colour coding.
(ii) How the gas cylinders are to be handled?

9. (a) Explain 'steam testing' and 'hydro testing'.

Or

- (b) Discuss in detail the engineering and administrative controls for radiation hazards.

10. (a) Explain the development of OSHA standard.

Or

- (b) Explain the certification procedure for OSHAS 18001.
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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and industrial Safety Engineering

ELECTRICAL SAFETY

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. Define stored energy.
2. What is corona effect?
3. List out the circuit breakers and relays.
4. What is the use of discharge rod?
5. What are the uses of behaviour and insulators?

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Explain about Indian electricity act and rules.

Or

- (b) Write short notes on :

- (i) First aid. (6)
- (ii) CPR. (6)

7. (a) Explain about lighting and the types of lighting arrestors.

Or

- (b) Explain the classes of insulation. (12)

8. (a) Explain about protection against voltage and under voltages. (12)

Or

- (b) Explain about our voltage relay. (12)

9. (a) Explain about protection and interlock. (12)

Or

- (b) Explain about rarthng devices. (12)

10. (a) Explain about intrinsically safe and explosion proof electrical apparatus. (12)

Or

- (b) What are the different hazardous zones and explain in detail?

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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

ENVIRONMENT, HEALTH AND SAFETY LAWS

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. Mention the inspecting staff of industries as per factories act 1948.
2. Write any two disposed methods of biomedical waste.
3. Define ANSI and its factors?
4. Write about building workers act 1986.
5. Define LC 50 and LD 50.

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Explain:
 - (i) Powers of Inspector
 - (ii) Duties of Certifying Surgeons.
 - (iii) Appointing of Inspecting Staff.

Or

- (b) Write about TN Factories rules 1950 under safety and health chapter.

7. (a) Treatment and disposal methods of biomedical waste.

Or

- (b) Explain about general powers of central government.

8. (a) Write list of hazardous and toxic chemicals.

Or

- (b) How to notify the major Accidents and write the model of report of major accident and petroleum rules?

9. (a) Explain SMPV.

Or

- (b) Explain : MSDS.

10. (a) (i) What is OSHAS18001?
(ii) What are the various classes of OSHAS18001?
Explain it.

Or

- (b) Write about the ANSI and explain its features.

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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

PRINCIPLES OF SAFETY MANAGEMENT

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. Under which act safety inspection is conducted?
2. Define: Liaison with departments to ensure co-ordination.
3. Write the principle of accident prevention.
4. State the difference between frequency rate and severity rate.
5. What are the methods of training?

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Explain – Incident Recall Technique (IRT).

Or

- (b) Write short notes on :

- (i) Evolution of modern safety concept. (6)
- (ii) Budgeting for safety. (6)

7. (a) What is audit? And write their types and methodology.

Or

- (b) (i) Explain “NCR” in detail. (6)
 (ii) Explain about check list. (6)

8. (a) Briefly explain accident investigation and analysis.

Or

- (b) Explain “domino sequence”.

9. (a) From the given data find out the safety performance indicators of company A & B for the year 2014.

Description of Incident	Company A	Company B
Number of LT injuries	09	12
Number of near misses	20	18
Number of fatalities	05	04
Total number of workers	300	320
Number of lost days	50	64
Work hours per day	06	10
Number of days worked	300	290

- (i) Calculate FR, SR and AR for both years.
 (ii) Which company is better with respect to FR?
 (iii) Which company is better with respect to “SR”?
 (iv) Which company can be given safety onward for better performance?

Or

- (b) Write notes on :
- (i) Permanent total disabilities. (4)
 - (ii) Partial disabilities. (4)
 - (iii) Temporary total disabilities. (4)
10. (a) Explain – domestic safety and training in detail.

Or

- (b) Discuss the training and education for safety and identify their needs. Also explain the methods of training.
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DIPLOMA EXAMINATION, NOVEMBER 2015

Fire and Industrial Safety Engineering

CONSTRUCTIONAL SAFETY

Time : 3 Hours

Maximum : 75 Marks

Section A

(5 × 3 = 15)

Answer **all** questions.

1. Explain the design aids for safe construction.
2. How the erection of structural frame work is done? Explain.
3. What are the OSHA requirements for working at heights?
4. What are the use of conveyors? Explain.
5. Write about the interesting experience at the construction site against the fire accidents.

Section B

(5 × 12 = 60)

Answer **all** questions.

6. (a) Describe about the quality assurance in construction.

Or

- (b) What are the problems impeding safety in construction industry? Explain.

7. (a) Discuss about the precautions in construction of high rise buildings.

Or

- (b) Explain about the construction of power plant.

8. (a) Discuss in detail about a case study related to fall protection.

Or

- (b) Write in detail about the working on fragile roofs and work permit systems.

9. (a) Write a short note on:

- (i) Excavators
- (ii) Concrete pumps
- (iii) Dumpers.

Or

- (b) Discuss about the uses of conveyors and mobile cranes.

10. (a) Discuss in detail about a case study against the fire accidents at the construction site.

Or

- (b) Classify trusses and explain them.