

C-1131

Sub. Code

30711

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Environment and Industrial Safety

RELIABILITY ENGINEERING

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Reliability.
2. Define a priori probability of survival.
3. Write difference between MTTF and MTBF.
4. Define series and parallel system.
5. Give the importance of fault tree analysis.
6. Define failure rate.
7. Give some hazard identification methods.
8. Draw the batch-tub curve.
9. What are the merits of conducting FMEA study?
10. Define risk assessment.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write short note on mean time to failure and derive it.

Or

- (b) Write short note on availability and its types.

12. (a) Write the derivation of weibull distribution.

Or

- (b) Write short note on non-parametric method.

13. (a) Write about the types of reliability testing methods.

Or

- (b) Write about application of baye's theorem.

14. (a) Write short note on series and parallel system.

Or

- (b) Write short note on probability plotting techniques.

15. (a) Explain the steps involved in chi-square goodness of fit test.

Or

- (b) Write about risk analysis techniques.

Part C**(3 × 10 = 30)**Answer **all** the questions.

16. (a) Explain the bath-tub curve of a product & its significance in each stage.

Or

- (b) Explain the detail about fault tree analysis.

17. (a) Explain the steps involved in conducting FMEA study in detail.

Or

- (b) Explain the following.
- (i) Gamma distribution
 - (ii) Exponential distribution.
18. (a) Discuss in detail the importance of risk measurement and steps involved in it.

Or

- (b) Explain in detail about reliability allocation.
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C-1132

Sub. Code

30712

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Environment and Industrial Safety

ORGANIZATIONAL BEHAVIOUR AND MANAGEMENT

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Who is competent person?
2. What is the need to study organizational behavior?
3. Define job satisfaction.
4. How to measure the job performance value?
5. What are the types of transactions?
6. What is meant by Johari window?
7. What is the use of team work?
8. Write some difference of formal and informal groups.
9. Draw the organization structure.
10. What is meant by organization culture?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on manager rolls in the industry.

Or

- (b) Write short notes on “KPI”.

12. (a) How to achieve job satisfaction in the industry?

Or

- (b) How to improve the workers personality?

13. (a) Explain about johari window.

Or

- (b) How to identify and rectify the Ego states.

14. (a) Write some merits and demerits of group work.

Or

- (b) Write some basic leadership quality.

15. (a) What are the factors direct the work?

Or

- (b) Write short notes on hierarchy of power flow.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) How to motivate the workers?

Or

- (b) Explain the following terms :

(i) Job stress

(ii) Individual decision making.

17. (a) How to manage the effective team?

Or

(b) Explain the types of groups.

18. (a) Explain briefly about organization change.

Or

(b) Explain briefly about foundations of group behavior.

C-1133

Sub. Code

30713

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Environment and Industrial Safety

BASICS OF SAFETY MANAGEMENT

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define safety policy.
2. Define disaster.
3. Define JSA.
4. What is meant by Incident Recall Technique?
5. What is meant by UA and UC? Give two examples on each.
6. Define permanent partial disability.
7. Define permanent total disability.
8. What is meant by near miss? Give two examples.
9. Why safety training is required? Name any two types of safety training.
10. In India, when do we celebrate National Safety Day & National Fire Safety Day?

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) What are the duties of supervisors with respect to safety?

Or

- (b) What are the duties of safety officer?

12. (a) Briefly explain about safety audit and its types.

Or

- (b) Explain about incident recall technique.

13. (a) Explain about domino's sequence.

Or

- (b) Discuss in short about cost of an accident.

14. (a) How to measure the performance of safety of any company? Also explain about frequency rate and severity rate.

Or

- (b) Explain about safe - T - score

15. (a) Briefly explain about induction training and its importance.

Or

- (b) Briefly explain about methods to promote safety in workplace.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Discuss in detail about safety-budgeting. What points are to be considered while preparing safety budget?

Or

- (b) Write the names of any ten safety related documents that needs to be followed. Also explain why?
17. (a) Explain about accidents and its types. Also explain when and why it needs to be reported to statutory body?

Or

- (b) Prepare a JSA for excavation activity.
18. (a) How to create safety awareness among workers and managers?

Or

- (b) What are the obstacles that will be faced while implementing safety? Explain why.
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C-1134

Sub. Code

30714/30614

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

**Environment and Industrial Safety/ Health Safety
Environment**

**FIRE SAFETY DESIGN, INSTALLATION AND
MAINTENANCE**

(Common for M.B.A. (E&IS)/M.Sc. (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What is auto ignition temperature?
2. Define BLEVE.
3. Define fire load.
4. What are the types of fire extinguishers?
5. Name the chemicals inside DCP and AFFF.
6. What are the types of detectors?
7. What are the pumps that are used in fire hydrant system?
8. What is fire alarm panel?
9. What is the purpose of static water tank?
10. Define fire zone.

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Explain about fire safety measures in chemical warehouse.

Or

- (b) Explain about fire safety measures in server room.

12. (a) Explain about fire extinguisher inspection and maintenance.

Or

- (b) Explain about classification of fire.

13. (a) Explain about emergency response team and their responsibilities.

Or

- (b) Discuss in short Fire sprinkler system.

14. (a) Explain about detector selection, placement and maintenance.

Or

- (b) Explain about fire hydrant installation and maintenance.

15. (a) Briefly explain about fire escape routes, emergency assembly points and mock drill.

Or

- (b) Briefly explain about classification of buildings based on occupancy.

Part C $(3 \times 10 = 30)$ Answer **all** the questions.

16. (a) How to conduct a fire mock drill in a manufacturing industry? Explain about the challenges in conducting.

Or

- (b) Explain in detail about fire safety measures of a educational institution.
17. (a) Explain about selection and placement of fire extinguishers.

Or

- (b) How to calculate fire load for a wood processing industry.
18. (a) Explain about fire alarm panel and its applications.

Or

- (b) Prepare a fire emergency response plan of a high rise building.
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C-1135

Sub. Code
30715A/ 30615A

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

**Environment and Industrial Safety/Health Safety
Environment**

**OCCUPATIONAL HEALTH AND SAFETY
MANAGEMENT**

(2016 onwards)

(Common for MBA (E & IS)/M.Sc. (HSE))

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define octave band analyzer.
2. What are the properties of sound?
3. What are the possible routes of chemical entry into a human body?
4. Draw a neat diagram of dust sample collection devices.
5. Define the term "Infectious Diseases".
6. Define the term "Ergonomics".
7. What are the effects of gas poisoning?
8. Define the term "Silicosis".
9. Discuss the factors for an employee going to be fatigue.
10. Write the effects of stress.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) What is vibration? Explain its types and effects.

Or

- (b) Define radar and Discuss the effects of radar hazards.

12. (a) Explain detail about dust sample collection devices.

Or

- (b) Write a short notes on design maintenance consideration for chemical hazards.

13. (a) Explain the types of Bio Hazardous agents.

Or

- (b) What are the safety measures to be follow while an animal care 4 handling.

14. (a) Explain any three occupational Diseases.

Or

- (b) Write about cardio pulmonary resuscitation.

15. (a) Explain the work organization with neat flow chart.

Or

- (b) Briefly explain about occupational work capacity.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Enumerate the biohazard control program.

Or

- (b) Write notes on
- (i) Microwaves
 - (ii) Radiowaves
 - (iii) Laser

17. (a) Write notes on
- (i) Pneumoconiosis (4)
 - (ii) Siderosis (3)
 - (iii) Asbestosis (3)

Or

- (b) Describe the evaluation of physiological requirements of jobs.

18. (a) Explain in detail about Training and Educations.

Or

- (b) Explain the following terms
- (i) Vital function test (5)
 - (ii) EyeTest (5)

C-1136

Sub. Code

30715b/ 30615b

P.G. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

**Environment and Industrial Safety/
Health Safety Environment**

SAFETY IN MINING INDUSTRY

(2016 onwards)

[Common for M.B.A. (E & IS)/M.Sc. (HSE)]

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is meant by pneumatic systems?
2. Write any two garage safety.
3. What are the side effects of gases?
4. Define winding.
5. What is atmospheric pollution?
6. Differentiate between ventilation and lighting.
7. What are the basic concepts of risk?
8. What is meant by fault tree analysis?
9. Classify the accidents.
10. What are the measures to be consider for improving safety in mines?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Illustrate with neat sketch of heavy machinery.
Or
(b) Write short notes on safe transportation.
12. (a) Explain about warning sensor.
Or
(b) Describe about occupational hazards.
13. (a) What are the hazards occur in tunneling? Explain any one in detail.
Or
(b) Briefly explain about noise electrical hazards.
14. (a) What are the elements of risk assessment?
Or
(b) Write short notes on quantitative structures.
15. (a) Explain about accident classification and analysis.
Or
(b) What is meant by disaster management? Explain in detail.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain about handling of explosives in detail.
Or
(b) Briefly explain about water flooding.

17. (a) Write detail notes on personnel protective equipment.

Or

- (b) Enumerate fuzzy model for risk assessment.

18. (a) Explain about safety audits recent development.

Or

- (b) Describe about the pneumatic tools and other machines.
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C-1137

Sub. Code

30715c/

30615c

P.G. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

**Environment and Industrial Safety/
Health Safety Environment**

SAFETY IN FIRE WORKS INDUSTRY

(Common for M.B.A. (E & IS)/ M.Sc. (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Write the fire properties of potassium chlorate(KClO_3).
2. Define the term “Explosion”.
3. What are the hazards presence in fire works?
4. What are the merits of PPE?
5. What are the effects while using hand tools?
6. What is the difference between adults, adolescent and young person as per factories act?
7. Write the control measure for manual handling operations.
8. What are the hazards presence in overhead power lines?
9. Define the term “Disposal”.
10. What are the hazards presence in display?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) What are the safety factors to be consider while using ammonia (NH₃)?

Or

- (b) Write notes on :

- (i) Potassium Nitrate(KNO₃).
- (ii) Pyro Aluminum (A₁) Powder.

12. (a) Write short notes on lighting arrestor.

Or

- (b) Discuss the term “Biological Barriers”.

13. (a) Write notes on :

- (i) Mixing
- (ii) Filling
- (iii) Fuse cutting.

Or

- (b) Briefly explain the presence of risk related firework industries.

14. (a) What are the safety measures to be followed while handling nitric acid?

Or

- (b) Discuss about fire extinguishers loose chemicals handling and transport.

15. (a) Explain briefly about consumer anxiety.

Or

- (b) Write notes on roles and responsibilities of fire service.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Define fire. How to develop a fire risk assessment.

Or

- (b) Write notes on :

- (i) Copper plates (4)
- (ii) Dress Materials (3)
- (iii) Earthing. (3)

17. (a) Discuss in detail about factories act.

Or

- (b) Discuss in detail about Explosive act.

18. (a) What are the safety measures to be followed while handling of hazardous material?

Or

- (b) Explain the concepts of wastes and effects disposal methods in fire works.
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C-1138

Sub. Code

30721

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environmental and Industrial Safety

**HUMAN RESOURCE DEVELOPMENT AND
MANAGEMENT**

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Write the importance of HRM.
2. List the objectives of HRM.
3. Define human resource planning.
4. What do you mean by Selection?
5. Write short notes on performance counseling.
6. What are fringe benefits?
7. Define organizational development.
8. Define employee turnover.
9. What is Demotion?
10. Explain Job Design.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a note on environmental influence in HRM?
Or
(b) Explain about the benefits and scopes of Human Resource Audit?
12. (a) Discuss the problems faced in human Resource Planning. How can these problems be overcome?
Or
(b) Discuss the tools for career development. Also differentiate career planning and succession planning?
13. (a) Explain the various stages involved in the selection of candidates for jobs in an organization.
Or
(b) Why do organizations prefer internal sources of recruitment? Explain the advantage and disadvantage of internal recruiting?
14. (a) What is compensation plan? Discuss the factors to be considered while formulating an effective compensation plan?
Or
(b) What is appraisal feedback interview? How can a performance appraisal system be made more effective?
15. (a) Explain the causes and objectives of transfers?
Or
(b) Discuss about the impacts of motivational environment?

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain about 'Human Resources Information system'. What are the processes involved in human resources information system?

Or

- (b) Discuss the functions of Human Resource Management.
17. (a) Describe the methods of performance appraisal?

Or

- (b) Write a note on the different stages in the career, and discuss the career development strategies followed by the any five Indian companies
18. (a) What are the major reasons for the emphasis on HRP at the macro level and explain any two techniques of HR demand forecasting?

Or

- (b) Elaborate achievement motivation theory and its implications?
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C-1139

Sub. Code

30722

M.B.A DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environment And Industrial Safety

EHS LAWS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define Ventilation.
2. List out the some welfare facilities.
3. What are the hazards associated with young workers?
4. What do you mean by fencing?
5. Name some lifting machines.
6. Define muster roll.
7. List out some act which is required for waste management.
8. Name some occupational disease.
9. What are the statutory requirements for industries?
10. What do you mean by fumes?

Part B**(5 × 5 = 25)**Answer **all** questions

11. (a) Discuss some special provision in the workplace.

Or

- (b) Discuss the importance of working hours.

12. (a) List out the chapters in the factories act 1948.

Or

- (b) Explain the notice of accidents in BOCW act, 1996.

13. (a) Explain the poisoning and occupational disease.

Or

- (b) Explain the fire safety measure in building.

14. (a) What are the powers of inspectors?

Or

- (b) Explain the artificial humidification.

15. (a) Explain the precautions against dangerous fumes.

Or

- (b) Explain the precautions against inflammable dust.

Part C**(3 × 10 = 30)**Answer **all** the questions.

16. (a) Explain in detail about factories act 1948.

Or

- (b) Explain in detail about the air (prevention and control of pollution) act, 1981.

17. (a) Explain in detail about the environmental act, 1986.

Or

- (b) Explain in detail about the public liability insurance act, 1991.

18. (a) Explain in detail about the water (prevention and control of pollution) act, 1974.

Or

- (b) Explain in detail about the Indian boilers act, 1923.
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C-1140

Sub. Code

30723

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environment and Industrial Safety

ELECTRICAL SAFETY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define SPARK.
2. What is under voltage?
3. Brief in Installation.
4. Write about 'SHORT CIRCUIT'.
5. What is CPR?
6. Define Portable Tools?
7. What is FIRST AID?
8. Where is ELCB is functioning?
9. Brief work permit system.
10. Explain about FUSE?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the Primary Hazards of Electricity in detail.

Or

- (b) Describe the Secondary Hazards of Electricity in detail.
12. (a) What is CORONA EFFECT? Explain the hazards of CORONA effect in detail.

Or

- (b) How to maintain the "EARTH PIT" in a safer manner? Explain Briefly.
13. (a) Define work Permit System in detail.

Or

- (b) What are HAZARDOUS ZONES? Explain in detail.
14. (a) Explain the functions of ELCB with detailed diagram and its uses.

Or

- (b) Elaborate the Protection Systems in Electrical Safety with example.
15. (a) What is meant by the term "EARTH RESISTANCE" in detail?

Or

- (b) "LIGHTING ARRESTER"? Explain the operations and its usage.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain "INDIAN ELECTRICITY ACT and RULES" in detail.

Or

- (b) Describe the key features and statutory requirements of Indian Electricity Act and Rules.
17. (a) What is the roles of Equipment Certifying Agencies?

Or

- (b) Elaborate the Safety measures in the classification of "HAZARDOUS ZONES"?
18. (a) Define "Static Electricity" and its hazards in detail.

Or

- (b) How to use the Portable Tool in Safer Manner? Explain in detail with examples.
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C-1141

Sub. Code

30724

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environment and Industrial Safety

CHEMICAL SAFETY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10× 2 = 20)

Answer **all** questions.

1. Define risk assessment.
2. What is meant by heat exchanger?
3. Define non destructive testing.
4. Define leak testing.
5. Define permit system.
6. Name any four types of work permit
7. Define onsite emergency plan.
8. Define apell.
9. Define flame arrester.
10. What is fire prevention?

Part B**(5 × 5 = 25)**Answer **all** questions

11. (a) Briefly discuss about reactor safety.

Or

- (b) Briefly discuss about pressure relief devices.

12. (a) Briefly discuss about pressure testing.

Or

- (b) Briefly discuss about performance monitoring.

13. (a) Briefly discuss about work permit system

Or

- (b) Briefly discuss about hazards in chemical industry

14. (a) Briefly discuss about offsite emergency planning.

Or

- (b) Briefly discuss about disaster planning.

15. (a) Briefly discuss about fire prevention and protection?

Or

- (b) What are the safety measure to be considered while storing LPG?

Part C $(3 \times 10 = 30)$ Answer **all** questions

16. (a) Describe in Detail About.
- (i) Pressure testing
 - (ii) Pipe line inspection

Or

- (b) Explain in detail about start up and shut down operation.
17. (a) Explain in detail about confined space safely.

Or

- (b) Explain in detail about hot work safety.
18. (a) Write in detail about hazard assessment of LNG storage.

Or

- (b) Write in detail about ammonia storage.
- _____

C-1142

Sub. Code

30625A/ 30725A

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environment and Industrial Safety

SAFETY IN OIL AND GAS INDUSTRY

(2016 ONWARDS)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define accident causation theory.
2. Write the classification of dangerous goods chemical.
3. Write the advantages of FMEA.
4. Define TOR.
5. Define situation awareness.
6. Write offshore industrial sector risk picture.
7. Write about group factors.
8. How to reduce fatal accident in oil and gas industry.
9. Write the accident data collection sources.
10. Define RIDDOR.

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Explain in detail about common causes of work injuries and mechanical injuries.

Or

- (b) Write in detail about consequence of human error and human error classifications.

12. (a) Explain in detail about interface safety analysis.

Or

- (b) Briefly explain the job safety analysis.

13. (a) Write short notes on piper alpha accident case study.

Or

- (b) Write short notes on offshore workers situation awareness concept, studies and their result.

14. (a) Write short notes on human factors that affect safety in oil and gas industry.

Or

- (b) Explain in detail about oil field fatality analysis in offshore industry.

15. (a) Write about WOAD.

Or

- (b) Write the short notes on hydrocarbon release database.

Part C $(3 \times 10 = 30)$ Answer **all** the questions.

16. (a) Explain in detail about accident causation theories.

Or

- (b) Explain in detail about product hazard classification in dangerous goods.

17. (a) Write in detail about failure mode effect analysis.

Or

- (b) Explain in detail about root cause analysis.

18. (a) Write in detail about recommendation to reduce fatal oil and gas industry accidents.

Or

- (b) Explain the failures and lessons learned from landmark offshore oil and gas accidents.

C-1143

Sub. Code

30725b

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Environment and Industrial Safety

WORK STUDY AND ERGONOMICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define ergonomics.
2. What are the human factors associated with ergonomics?
3. Define accident.
4. What is meant by physiology of workers?
5. Define PPE.
6. Name any four respiratory PPE.
7. Define safety inspection.
8. Define safety training.
9. Define static dimension.
10. Define dynamic dimension.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Briefly explain about PQS.

Or

- (b) Briefly explain about robotic concepts in ergonomics.

12. (a) Explain about Layouts of electrical panels.

Or

- (b) Briefly explain about physiology of workers with respect to ergonomics.

13. (a) Briefly explain about selection of PPE.

Or

- (b) Briefly explain about purchase & storage of PPE.

14. (a) Briefly explain about machine guarding.

Or

- (b) Briefly explain about ergonomics training requirements.

15. (a) Briefly explain about methods to reduce strain.

Or

- (b) Briefly explain about displays and controls.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Describe in detail about ergonomic principles in shop floor.

Or

- (b) Describe in detail about WRULS and its control strategies.

17. (a) Describe in detail about ergonomic risk assessment.

Or

- (b) Describe in detail about layout considerations with respect to ergonomics.

18. (a) Describe in detail about elimination and substitution of fatigue.

Or

- (b) Describe in detail about human factors in ergonomics.

C-1144

Sub. Code
30725C/30625C

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

**Environment and Industrial Safety/ Health Safety
Environment**

HAZARD AND RISK MANAGEMENT

(2016 onwards)

(Common for MBA (E and IS) M.Sc. (HSE))

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define the term “HAZARD”.
2. What are the five steps of HIRA?
3. Write the benefits of JSA.
4. Define the term “Job Safety Analysis”.
5. Expand the following terms ETA, FTA, HAZOP, FMEA.
6. What are the merits of standard operating procedure (SOP)?
7. What is the purpose of AIR?
8. What are the types of accidents?
9. Define safety T-score.
10. Define the term permanent total disabilities.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Distinguish between Engineering control and Administrative control.

Or

- (b) Define PPE and write short notes on merits and demerits of PPE.

12. (a) How to develop JSA for scaffolding work?

Or

- (b) What are the types of Hazards and explain any two?

13. (a) Write a fault tree analysis for motor failure.

Or

- (b) Define the term “HAZAN” and explain the steps.

14. (a) Write short notes on

- (i) Heinrich triangle
- (ii) Domino’s sequence

Or

- (b) What are the hierarchy of controls and explain.

15. (a) Write short notes on

- (i) Incident rate,
- (ii) Severity rate,
- (iii) Safety activity rate.

Or

- (b) Distinguish between permanent total disabilities and temporary total disabilities.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) What is PPE? What are the merits and demerits of PPE? Explain about head and eye protection?

Or

- (b) How to develop HIRA for Confined space?

17. (a) Explain in detail about Hazard and operability studies (HAZOP).

Or

- (b) Explain in detail about Fault Tree Analysis (FTA).

18. (a) Explain in detail about Accident Investigation Report (AIR).

Or

- (b) What is performance monitoring and, explain in detail?
-

C-1145

Sub. Code

30731

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Environment and Industrial Safety

CONSTRUCTIONAL SAFETY MANAGEMENT

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the reasons for accident?
2. Define safety.
3. Define trench.
4. List out the types of scaffolding.
5. Define work at height.
6. Define work permit system.
7. List out any four construction machinery.
8. Define manual handling.
9. Define hazard.
10. What is method statement?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Discuss about the safety education and training.

Or

- (b) Discuss about the various types of permit to work followed in construction site.

12. (a) What are the things to be considered in scaffold inspection checklist?

Or

- (b) Discuss about the pre-blast inspection.

13. (a) Describe about the fall protection system in construction site.

Or

- (b) Discuss about the safety monitoring system.

14. (a) Discuss about the safety in earth moving equipment.

Or

- (b) Discuss about the safety in portable electrical tools.

15. (a) Explain about the safe clearance zone in demolition work.

Or

- (b) What are the keys to safe demolition?

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about the recording of accidents and safety measures in construction site.

Or

- (b) Explain about the various hazards and control measures for excavation activities.

17. (a) Explain in detail about the scaffolding and its types.

Or

- (b) Write in detail about the hazard and control measures of excavators and dozers.

18. (a) Explain about the health hazards from the demolition.

Or

- (b) Describe in detail about the safe working on fragile roofs.

C-1146

Sub. Code

30732

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Environment and Industrial Safety

INDUSTRIAL SAFETY MANAGEMENT

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What do you mean by PPE?
2. Define metalizing.
3. What is flashback arrestor?
4. What is LNG?
5. What are the types of fire extinguisher?
6. Name some mechanical hazards.
7. What is the difference between drilling and boring?
8. Define hazard.
9. List out some non-ionizing radiation
10. Define inspection.

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Explain dynamic balancing..
- Or
- (b) Write the safety precautions in brazing.
12. (a) List out the some individual used cylinders and its color coding.
- Or
- (b) Explain respiratory PPE and its types.
13. (a) Write the safety measures for chain pulley block.
- Or
- (b) Explain fire hydrant.
14. (a) List out some common hazards in welding and soldering.
- Or
- (b) Explain about personal monitoring devices.
15. (a) Explain about the personal monitoring devices.
- Or
- (b) Explain onsite emergency plan.

Part C**(3 × 10 = 30)**Answer **all** the questions.

16. (a) Explain in detail about offsite emergency plan.
- Or
- (b) Explain the safe condition of chemical storage.

17. (a) Explain in detail about machine guarding.

Or

(b) Explain OSHAS 18001.

18. (a) Explain the elements of OHS policy.

Or

(b) Explain the facilities for safe effluent disposal and treatment.

C-1147

Sub. Code

30733

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Environment and Industrial Safety

**DISASTER MANAGEMENT AND EMERGENCY
RESPONSE**

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define Disaster. What are its types?
2. Write any 4 examples of industrial disasters.
3. Define APELL.
4. Define emergency. What are its types.
5. Define Pollution. What are its types.
6. Define global warming.
7. What are the classifications of fire?
8. Write any 4 natural disasters.
9. Define disaster preparedness.
10. Define disaster response.

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Briefly explain about deforestation.

Or

- (b) Briefly explain about disaster mitigation.

12. (a) Briefly explain about APELL.

Or

- (b) Briefly explain about emergency preparedness and response.

13. (a) Briefly explain about bio diversity.

Or

- (b) Briefly explain about environmental impact assessment.

14. (a) Briefly explain about marine pollution and control.

Or

- (b) Briefly explain about nuclear disaster and control.

15. (a) Briefly explain about environmental protection law.

Or

- (b) Briefly explain about public liability insurance.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about wind and water related diseases and its preparedness.

Or

- (b) Explain in detail about emergency crisis management.

17. (a) Discuss in detail about different types of pollutions and its effects.

Or

- (b) Discuss in detail about controlling of different types of pollution.

18. (a) Discuss about emergency preparedness and response during earthquake.

Or

- (b) Discuss about emergency preparedness and response during chemical release.

C-1148

Sub. Code

30734

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Environment and Industrial Safety

COMPUTER AIDED SAFETY ANALYSIS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define group risk and societal risk.
2. What is hazards assessment?
3. What is calorimeter and types?
4. Explain fire explosion index.
5. Define pool fire and jet fire.
6. Write the effects of heat and radiation.
7. What is the principle of thermo gravimetric analyzer?
8. What is meant by ETA?
9. Define flash fire.
10. What is Rijnmond report?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write about hazard monitoring and its types.

Or

- (b) Write about what it analysis.

12. (a) Write short notes on reactive calorimeter.

Or

- (b) Write short card gap test.

13. (a) Write about minimul cut set rating.

Or

- (b) Write about various indices in risk analysis.

14. (a) Write about explosion effects and confined explosion.

Or

- (b) Write about gas (or) vapor release, liquid release and two phase release.

15. (a) Write about flix borough disaster.

Or

- (b) Write about Bhopal disaster.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain about methodology of hazards assessment.

Or

- (b) Explain about safety warning system.

17. (a) Explain about minimum ignition energy test and ignition test.

Or

- (b) Explain about fault tree analysis.

18. (a) Explain about failure mode effect analysis.

Or

- (b) Explain detail about fire explosion and toxicity index (FETI).
-

C-1149

Sub. Code

30735a/ 30635a

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

**Environment and Industrial Safety/Health Safety
Environment**

SAFETY IN POWDER HANDLING

(2016 onwards)

(Common for MBA (E & IS)/ M.Sc. (HSE))

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. List out the properties of chemical.
2. What is known as non metallic powder?
3. What is known as milling?
4. What is known as electro deposition?
5. Define dust fire.
6. What is known as hybrid test?
7. What is a bucket elevator?
8. What is static electricity?
9. What is known as mine?
10. What is known as case studies?

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Explain about powder classification.

Or

- (b) Explain about merits and demerits of metal powder.

12. (a) Explain about atomization and its types.

Or

- (b) Explain about electro deposition.

13. (a) Explain about dust explosion accidents.

Or

- (b) Discuss in short about explosion pressure characteristics.

14. (a) Explain about bucket elevators.

Or

- (b) Explain about dust separators.

15. (a) Briefly explain about

- (i) control of dust source
- (ii) dust transmission.

Or

- (b) Briefly explain about labeling.

Part C**(3 × 10 = 30)**Answer **all** the questions.

16. (a) Explain in detail about charge distribution and charging of powders.

Or

- (b) Explain in detail about screening and cleaning of metals.

17. (a) Explain about dust explosion accidents.

Or

- (b) Write short notes on

- (i) dust filter
- (ii) dust separators.

18. (a) Explain about methodology of dust evaluation and control.

Or

- (b) Discuss about the environmental protection from dust.
-

C-1150

Sub. Code

30735b/ 30635b

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

**Environment and Industrial Safety/
Health Safety Environment**

DOCK SAFETY

(Common for M.B.A. (E and IS)/M.Sc. (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is known as dock?
2. List out some hazardous chemical.
3. Define engine.
4. List out the types of HATCH.
5. Define slings.
6. Define transtainers.
7. List out the types of cargo.
8. Define stacking.
9. Define fire.
10. What is known as on site?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about safety measures in import of hazardous chemicals.

Or

- (b) Explain about environment protection act 1989.

12. (a) Explain about (i) safety in use of transport equipment (ii) internal combustion engine.

Or

- (b) Explain about safety in use of transport equipment.

13. (a) Explain about safety measure of top lift trucks.

Or

- (b) Discuss in short about use and care of natural fiber ropes.

14. (a) Explain about stacking and unstacking.

Or

- (b) Explain about testing and inspection of containers.

15. (a) Briefly explain about collapse of lifting appliances.

Or

- (b) Briefly explain about illumination of decks and in holds.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain in detail about function of safety committees and advisory committee.

Or

- (b) Explain in detail about types of cargo ships.
17. (a) Explain about construction, maintenance and use of various methods of rigging of derricks.

Or

- (b) Explain in detail about slings and loose gears with its types.
18. (a) Explain about restriction of loading and unloading operations in ship.

Or

- (b) Discuss about the preparation of onsite emergency plan.
-

C-1151

Sub. Code
30635C/30735C

M.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

**Health Safety Environment/ Environment and
Industrial Safety**

HAZARDOUS WASTE MANAGEMENT

[Common for MBA(E&IS) / M.Sc (HSE)]

(2016 onwards)

Time : 3 Hours

Maximum :75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the characteristics of hazardous?
2. Define SDS.
3. List out the legal requirement of hazardous wastes amendment rules 2003
4. What are the three forms used in the bio-medical waste rule?
5. What is meant by radioactive waste management?
6. What are the sources of radioactive waste?
7. Define environmental risk assessment.
8. Define incineration.
9. What is MSW?
10. What is air stripping?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss about the transportation of hazardous waste.

Or

- (b) Discuss about the secure landfills of hazardous waste?

12. (a) Discuss about the recycle plastics usage rules.

Or

- (b) What are the CPCB guidelines for segregation of municipal solid waste?

13. (a) Discuss about the waste generation from nuclear power plant.

Or

- (b) What are the CPCB guidelines for transport of solid waste?

14. (a) Discuss about the waste micro clave.

Or

- (b) Explain about the leachate collection and removal.

15. (a) Discuss about the oxidative and reductive process in biological treatment of solid waste.

Or

- (b) What are the principles of bio-degradation of toxic waste?

Part C

(3 × 10 = 30)

Answer all the questions.

16. (a) Explain in detail about the UN classification of chemical.

Or

- (b) Explain in detail about the MSIHC rules 1989

17. (a) Explain in detail about the various disposal options of nuclear waste

Or

- (b) Explain about the environmental risk assessment.

18. (a) Describe in detail about the physicochemical processes for hazardous waste.

Or

- (b) Describe about the land fill design for solid and hazardous waste.

C-1152

Sub. Code

30741/30641

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

**Environment and Industrial Safety/Health Safety
Environment**

ENVIRONMENTAL SAFETY MANAGEMENT

[Common for M.B.A (E and IS)/M.Sc. (HSE)]

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the classification of air pollutants?
2. What is deforestation?
3. Define water pollution.
4. Define water sampling.
5. Define hazardous waste.
6. What are the characteristics of hazardous waste?
7. What is scrubber?
8. Define adsorption.
9. Define Eco-friendly energy.
10. List out any four sources for pollution in cement industry.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) What are the effects of air pollutants on human beings, animals and plants?

Or

- (b) Discuss about the sources of air pollution.

12. (a) Describe about the classification of water pollutants.

Or

- (b) Describe about the water treatment process in tannery.

13. (a) Discuss about the incineration and verification.

Or

- (b) Write a short note on collection of solid waste.

14. (a) Discuss about the particle size analyzer.

Or

- (b) Discuss about the LUX meter and PH meter.

15. (a) Describe about the pollution control measures in paper industry

Or

- (b) Describe about the pollution control measures in dying and pigment industry.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Describe in detail about the concept of clean coal combustion technology.

Or

- (b) Describe in detail about the effluent quality standards and laws for chemical industries.

17. (a) Describe about the collection, treatment and disposal of hazardous waste.

Or

- (b) Describe about the control of gaseous emission by adsorption, absorption and combustion methods.

18. (a) Describe about the pollution sources and control measures in the thermal power plant.

Or

- (b) Describe about the hazards of air pollution.

C-1153

Sub. Code

30742

M.B.A. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Environment and Industrial Safety

EMS AND OHSMS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the features of OSHAS 18001.
2. What are the specifications and scope of OHSAS 18001?
3. Write a short note on developing OH and S policy.
4. What are the short term action plans in OHSAS 18001?
5. Write down the steps to monitoring the OHSAS 18001.
6. List out the training methodology in OHSAS.
7. Define ISO 14001.
8. List out the levels of documentation for ISO 14000.
9. Define the general principles of LCA.
10. What are the types of labels in environment impact assessment?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the OH and S management system in OHSAS.

Or

- (b) Explain the structure involved in OHSAS 18001.

12. (a) Explain the objective and targets of OHSAS 18001.

Or

- (b) Explain briefly about benefits of OHSAS 18001 policy.

13. (a) Write down the structure of OHSAS 18001 policy.

Or

- (b) Explain the process and procedures in implementation of OHSAS 18001 policy.

14. (a) Write down the short notes on AUDITING ISO 14000.

Or

- (b) Explain the Environmental Audit.

15. (a) Explain the report and review of Environment impact assessment.

Or

- (b) Explain the Eco labeling.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain briefly about Development of OHSAS standard and its scope.

Or

- (b) Explain briefly about the methodology steps developing action plan in OHSAS 18001.
17. (a) Explain the structure and responsibilities of OHSAS 18001.

Or

- (b) Write a short notes about the checking and review of OHSAS 18001.
18. (a) Explain briefly about EMS and ISO 14001.

Or

- (b) Discuss the general principle of ISO 14000 and stages of ISO 14000.
-

C-1154

Sub. Code
30743A/30643A

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

**Environment and Industrial Safety/Health Safety
Environment**

TRANSPORT SAFETY MANAGEMENT

[Common for MBA (E and IS)/M.Sc. (HSE)]

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the warning symbols.
2. What is known as check list?
3. List out the causes of accident due to driver.
4. What are the factors improving safety on road?
5. Define HAZMAT code.
6. Define TACHOGRAPH.
7. What is TRACTIVE FORCE?
8. What are guard rails and barriers?
9. What is known as mechanical handling?
10. Define Battery.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write the procedure and methods in Driver training.

Or

- (b) Explain the static electricity and its effects.

12. (a) What are the factors for improving safety on road's?

Or

- (b) Explain the operation and maintenance of motor trucks.

13. (a) Discuss the Driver safety program.

Or

- (b) Explain the Accident investigation process.

14. (a) Explain the road alignment and gradient in road safety.

Or

- (b) Discuss the significance and restriction of speed.

15. (a) Explain the types of crane.

Or

- (b) Explain the principle and working of vehicle battery charging.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Discuss the inspection and maintenance of vehicles and give the check list.

Or

- (b) Explain briefly about the Motor vehicles act.
17. (a) Explain briefly about HAZMAT and its code.

Or

- (b) Discuss the safety in railway plant and its clearance, warning methods and its safety practices.
18. (a) Write a short notes
- (i) Mechanical handling
 - (ii) Gasoline handling.

Or

- (b) Discuss briefly about training of driver and responsibilities of driver.
-

C-1155**Sub. Code****30743b/
30643b****P.G. DEGREE EXAMINATION, NOVEMBER 2019****Fourth Semester****Environment and Industrial Safety/Health Safety
Environment****FOOD SAFETY****(2016 onwards)****(Common for M.B.A. (E & IS)/M.Sc. (HSE))**

Time : 3 Hours

Maximum : 75 Marks

Part A**(10 × 2 = 20)**Answer **all** questions.

1. Define Viruses.
2. What is known as Microbiology?
3. What is known as food poisoning?
4. Define food borne illness.
5. What is known as irradiated foods?
6. Define frozen food.
7. Define layout and its importance.
8. List out the effect caused by poor ventilation.
9. Define critical control points.
10. What is known as raw material?

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Write short notes on characteristics of bacteria.

Or

- (b) Discuss the factors influencing bacterial growth.

12. (a) Write short notes on :

(i) STAPHYLOCOCCUS AUREUS,

(ii) BACILLUS CEREUS.

Or

- (b) Explain the animal toxins and parasitic infections.

13. (a) Explain about spoilage of fresh meat and cured meat.

Or

- (b) Discuss the effects in frozen food and canned food.

14. (a) Explain the effect in noise and vibration during food manufacturing process.

Or

- (b) Write short notes on layout and integration of different work areas.

15. (a) Discuss the origins of HACCP.

Or

- (b) Explain the technique and procedure in packaging the food products.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain briefly about the bacteria and its characteristics and its effect.

Or

- (b) Write short notes on :
- (i) BOTULISM,
 - (ii) LISTERIOSIS,
 - (iii) CLOSTRIDIUM PERFRINGENS,
 - (iv) MYCOTOXICOSES
17. (a) Explain briefly about the poultry and the risk and the effect of spoilage of poultry.

Or

- (b) Explain briefly about the construction of ceilings, walls and floors in food factory.
18. (a) Explain briefly about the features of HACCP, principles of HACCP and its advantages.

Or

- (b) Discuss briefly about risk and effect of chemicals, rate of entry of chemical in our body and its disadvantages.
-

C-1156**Sub. Code****30743C/
30643C****P.G. DEGREE EXAMINATION, NOVEMBER 2019****Fourth Semester****Environment and Industrial Safety/
Health Safety Environment****SAFETY EQUIPMENTS AND PROCEDURES****(2016 onwards)****(Common for M.B.A. (E & IS)/M.Sc. (HSE))**

Time : 3 Hours

Maximum : 75 Marks

Part A**(10 × 2 = 20)**Answer **all** questions.

1. Define PPE.
2. List out the IS codes for PPE.
3. Define GFCL.
4. What is known as NRV?
5. What are the reasons for fire?
6. What is known as fire ball?
7. What is known as SAR?
8. Define SCUBA.
9. List out the types of fall protection.
10. Write short notes about Lanyard.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain briefly about the maintenance of PPE.
Or
(b) Discuss the IS codes for safety equipment.
12. (a) Explain the working principle of ELCB and its advantages.
Or
(b) Explain the lifting tools and tackles.
13. (a) Explain the different type of Extinguishers.
Or
(b) Explain briefly about smoke detector.
14. (a) Explain the head protection system and its types.
Or
(b) Explain the hand protection and its types.
15. (a) Explain the function of Rope grab and Retractable arrestor.
Or
(b) Explain the rescue operation from height.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain briefly about the storage and maintenance of PPE.
Or
(b) Discuss briefly about rigging equipments and its types.

17. (a) Explain briefly about Hydrant system.

Or

(b) Write short notes on :

(i) Fire axe

(ii) Fire bucket

(iii) Flame detector.

18. (a) Explain briefly about fire extinguisher and its classes.

Or

(b) Explain the Non-respiratory PPE and its types.

C-1157

Sub. Code

30744a/ 30644a

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

**Environment And Industrial Safety/
Health Safety Environment**

NUCLEAR SAFETY

(Common for MBA(E and IS)/M.Sc (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the harmful effects of radiation.
2. What do you mean by scattering?
3. What are the various isotopes used in reactors?
4. How will you control the hazards?
5. List out the acute effects of radiation.
6. What do you mean by radiation dose.
7. What are the units of radiation?
8. What are the active and passive fire protection system?
9. What are the types of reactors?
10. List out the ionizing and non-ionizing radiation.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the liquid metal coolants.

Or

- (b) Explain the direct and dual cycle.

12. (a) Explain the safety regulation process in nuclear reactors.

Or

- (b) Explain the control of radiation exposure to plant personnel.

13. (a) Explain control of radiation instrumentation and monitoring.

Or

- (b) Explain online central data processing system.

14. (a) Explain the radioactivity of steam system.

Or

- (b) Explain the fast fission.

15. (a) Explain the resonance escape.

Or

- (b) Explain the neutron moderation.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Explain the following.

- (i) Multiplication
- (ii) Scattering
- (iii) Thermal utilization

Or

(b) Explain in detail about the reactor operation and operational problems.

17. (a) Discuss in detail about the three mile island.

Or

(b) Discuss in detail about the Chernobyl accident.

18. (a) Explain the waste management and disposal practices.

Or

(b) Explain the barriers for control of radioactivity release.

C-1158

Sub. Code

30744b/ 30644b

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

**Environment and Industrial Safety/Health Safety
Environment**

SAFETY IN TEXTILE INDUSTRY

(Common for M.B.A. (E & IS)/M.Sc. (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What do you mean by short staple spinning?
2. What do you mean by winding?
3. What is shuttle looms?
4. Define punting.
5. Define noise.
6. List out the occupational disease in textile industry.
7. Define souring.
8. What is the effect of noise?
9. What are the hazards of steam?
10. What do you mean by dyeing?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the effects in textile processes.

Or

- (b) Explain the flyer frames and ring frames.

12. (a) Explain the accident prevention control.

Or

- (b) Explain the knitting machines.

13. (a) What are the welfare measures specific to textile industry?

Or

- (b) Explain the special precautions for specific hazards work environment.

14. (a) List out the sections of factories act.

Or

- (b) Explain the mechanical finishing operations.

15. (a) Explain the viscose rayon.

Or

- (b) Explain the process flow chart.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about the effect treatment and waste disposal in industry.

Or

- (b) Explain the mechanical finishing operations.

17. (a) Explain the factories act.

Or

- (b) Describe the following

- (i) Shuttle looms,
- (ii) Knitting machine,
- (iii) Non-woven's.

18. (a) Explain the health hazards in textile industry related to dust, fly, and noise.

Or

- (b) Explain the following

- (i) Carding,
- (ii) Combing,
- (iii) Drawing.

C-1159

Sub. Code

30744C/ 30644C

P.G. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

**Environment and Industrial Safety/Health Safety
Environment**

MAINTENANCE ENGINEERING

(Common for M.B.A (E & IS)/M.Sc. (HSE))

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define PM maintenance with example.
2. What is inspection?
3. What is the use of maintenance?
4. List out the types of maintenance.
5. Define Reactive maintenance.
6. Expand the term FMECA.
7. Define maintenance staffing.
8. What do you mean by TPM?
9. Define Simulation.
10. What is imperfect maintenance?

Part B**(5 × 5 = 25)**Answer **all** the questions.

11. (a) Explain the overall equipment effectiveness.

Or

- (b) Explain the TPM implementation.

12. (a) Explain the design for maintainability.

Or

- (b) Explain the six major losses.

13. (a) Explain the system effectiveness.

Or

- (b) Discuss the optimal size of service facility.

14. (a) Briefly explain the replacement decisions.

Or

- (b) Explain the inspection models.

15. (a) Explain the maintenance policies.

Or

- (b) What do you mean maintenance planning?

Part C**(3 × 10 = 30)**Answer **all** the questions.

16. (a) Explain in detail about the maintenance objectives and challenges.

Or

- (b) Explain PM maintenance and BD maintenance.

17. (a) Explain the optimizing profit/down time.

Or

(b) Explain in detail about the maintenance planning and scheduling.

18. (a) Explain the chronic and sporadic losses.

Or

(b) Explain the TPM pillars and TPM implementation.
