C–0397

Sub. Code
30711

M.B.A. DEGREE EXAMINATION, APRIL 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 hazard assessment.

2. Difference between group and individual risk.

3. What is thermo calorimeter?

4. What is card gap test?

5. Define pool fire and jet fire.

6. Define hazard identification.

7. Define BLEVE.

8. What is convey report?

9. What is deflagration test?

10. Define fire explosion.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write a short note on safety audit and its types.

Or

(b) Write a short note on risk issue.

12. (a) Write the short note on differential scanning calorimeter.

Or

(b) Write a short note on impact sensitiveness test.

13. (a) Write about the HAZAN.

Or

(b) Write about basic concept of reliability.

14. (a) Write a short note on logics of consequences analysis.

Or

(b) Write a short note on BLEVE.

15. (a) Explain about Bhopal disaster.

Or

(b) Write about Mexico disaster.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain detail about hazard assessment.

Or

(b) Explain in detail about the following.

(i) Friction sensitiveness test

(ii) Shock sensitiveness test.

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

Or

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

18. (a) Discuss in detail about explosion and its types.

Or

(b) Explain in detail about past accident analysis as information sources for hazard analysis and consequences analysis of chemical accident.

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C–0398

Sub. Code
30712

M.B.A. DEGREE EXAMINATION, APRIL 2019

First Semester

Environment and Industrial Safety

ORGANIZATIONAL BEHAVIOR AND MANAGEMENT

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define organization.
2. What managers do?
3. Define personality.
4. What are the characteristics of learning?
5. What is interpersonal behavior?
6. Write the application of transactional analysis.
7. Define group dynamics.
8. Define team.
9. Define organizational structure.
10. Define organizational change.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write a short note on challenges and opportunities of managers.

Or

(b) Write about skills of managers.

12. (a) Write a short note on perception.

Or

(b) Write about learning process.

13. (a) Write about EGO states and its types.

Or

(b) Write about life position.

14. (a) Write about formal and informal groups.

Or

(b) What are the guidelines to be followed for team building?

15. (a) Discuss about the importance of organizational culture.

Or

(b) Write short notes on organizational culture.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about Henry mintzberg managerial role.

Or

(b) Explain about manger behavioral sciences disciplines contributing to OB.

17. (a) Explain in detail about attitudes in OB.

Or

(b) Explain JOHARI WINDOW.

18. (a) Discuss about the theories of leadership.

Or

(b) Explain in detail about organizational structure.

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C–0399	Sub. Code
	30713

M.B.A. DEGREE EXAMINATION, APRIL 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.

2. Define safety inspection.

3. Define safety audit.

4. Define NCR. What are the types of NCR?

5. Define reportable accidents.

6. What is the purpose of accident investigation?

7. Define frequency rate with formula.

8. Define severity rate with formula.

9. Define tool box talk.

10. Define induction training.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly explain about safety budgeting for a process industry.

Or

(b) Briefly explain about incident recall technique.

12. (a) Briefly explain about (i) Safety inspection (ii) Safety audit.

Or

(b) How to identify unsafe act and unsafe condition at workplace and mention three examples in each case.

13. (a) Explain in short about safety committee meeting and role of safety officer in safety committee.

Or

(b) Discuss in short about safety responsibilities of supervisor.

14. (a) Explain in brief about computation of safe — T — score.

Or

(b) Define disability. Explain about the types of disabilities.

15. (a) Briefly explain about role of government agencies and private agencies in safety training.

Or

(b) Briefly explain about different types of safety training.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about job safety analysis.

Or

(b) Prepare a job safety analysis for construction of high rise building.

17. (a) Explain in detail about safety audit. Also, explain how to perform a safety audit in shop floor.

Or

(b) Explain in detail about accident investigation and reporting.

18. (a) Explain about accident prevention also explain about hierarchy of accident prevention.

Or

(b) Share your ideas and thoughts on how to conduct safety day at your site.

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C–0400

Sub. Code
30714/30614

P.G. DEGREE EXAMINATION, APRIL 2019

First Semester

Environment and Industrial Safety

FIRE SAFETY-DESIGN, INSTALLATION AND MAINTENANCE

(2016 onwards)

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

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define flash point.
2. Define fire point.
3. Define fire load.
4. What are the types of fire extinguishers?
5. Define hydro static pressure testing.
6. What are the types of detectors?
7. Define MCP.
8. What is meant by fire hydrant?
9. Define fire zone.
10. What is meant by fire escape route?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain about fire triangle and fire tetrahedron.

Or

(b) Explain about (i) BLEVE (ii) VCE.

12. (a) Explain about fire extinguisher size and placement.

Or

(b) Explain about classification of fire.

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

Or

(b) Discuss in short fire alarm system.

14. (a) Explain about fire water requirement as per national building code of India.

Or

(b) Explain about fire extinguisher maintenance procedure.

15. (a) Briefly explain about fire zones.

Or

(b) Briefly explain about inspection and maintenance of detectors.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Discuss in detail about fire sprinkler system.

Or

(b) Explain in detail about (i) Air sampling type detector (ii) IR flame detector (iii) Spark/Ember detector.

17. (a) Explain about selection and placement of fire extinguishers.

Or

(b) How to calculate fire load for a food industry.

18. (a) Explain about operational procedures and sequence of fire hydrant system.

Or

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

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C–0401

Sub. Code
30715a/ 30615a

P.G. DEGREE EXAMINATION, APRIL 2019

First Semester

Environment and Industrial Safety

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

(2016 onwards)

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

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **ALL** questions.

1. Define Industrial Audiometry.
2. What are the types of lonizing Radiation?
3. What is the difference between vapour and fumes. Give some examples for each case.
4. Define Training and Education.
5. What are the classification of Bio- Hazardous agents?
6. What are the factors to be considered for back injuries?
7. Give some examples for occupational related diseases.
8. Define Pneumoconiosis.
9. What is the difference between Aerobic and Anaerobic work?
10. Define the term “Personal Hygiene”.

Part B (5 × 5 = 25)

Answer **ALL** questions, choosing either (a) or (b).

11. (a) Define Noise and Briefly explain about noise control program.

Or

(b) What is the difference between Hot and Cold work? and write the control measure for each case.

12. (a) Define the following terms and give examples.

(i) Dust (ii) Fumes (iii) Mist (iv) Vapour.

Or

(b) Briefly explain about gas and vapour monitors.

13. (a) What is the meaning of the term bio hazard? and write about bio hazard control program.

Or

(b) Define the term Ergonomical and what are the factors to be considered for work related musculoskeletal disorders.

14. (a) Define asbestosis and how to control Asbestosis related work.

Or

(b) Write about carcinogens entry into human system.

15. (a) Define physiology and what are the hazards present in physiology related work.

Or

(b) Define the following terms and give a control measure for reducing each case.

(i) Stress (ii) Fatigue.

Part C (3 × 10 = 30)

Answer any **ALL** questions.

16. (a) Explain the functions of sample collection devices.

Or

(b) Define radiation. Write the types of radiations and its effect.

17. (a) Explain in detail about chemical hazards .and controls.

Or

(b) Define carpal tunnel syndrome and explain in detail.

18. (a) Define gas poisoning and explain in detail about their effect and preventive measures.

Or

(b) What is personal hygiene? and what are factors to be consider for improving personal hygiene.

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C–0402

Sub. Code
30715b/ 30615b

P.G. DEGREE EXAMINATION, APRIL 2019

First Semester

Environment and Industrial Safety

SAFETY IN MINING INDUSTRY

(2016 onwards)

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

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–0403

Sub. Code
30715c/ 30615c

P.G. DEGREE EXAMINATION, APRIL 2019

First Semester

Environment and Industrial Safety

SAFETY IN FIRE WORKS INDUSTRY

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

(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 (NH_3)?

Or

(b) Write notes on :

(i) Potassium Nitrate(KNo_3).

(ii) Pyro Aluminum (A_1) 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–0404	Sub. Code 30721

M.B.A. DEGREE EXAMINATION, APRIL 2019

Second Semester

Environment and Industrial Safety

HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the functions of human resource management?

2. Define Human Information System.

3. Write the importance of human resource planning.

4. Define career planning and development.

5. What is meant by Performance Appraisal?

6. What do you understand by compensation management?

7. List out few necessity of participation management.

8. What is stress management?

9. Mention the advantage of global business.

10. Define Trade Union.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the human resource management concept and scope.

Or

(b) Write about concept and role of strategic human resource management.

12. (a) Define human resource planning. Explain the content of human resource planning.

Or

(b) What is organisation development? Explain them.

13. (a) Write short note on :

(i) Appraisal feedback (2)

(ii) Performance counselling. (3)

Or

(b) Explain about financial incentives.

14. (a) What are the important of motivational theory? Explain them.

Or

(b) What is human resource mobility? Explain them.

15. (a) Explain the Bench Marking and HR Communication.

Or

(b) Detail note on "Human Resource" mobility.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Define HRD. Explain how do these process help an organisation in working excellence. Explain with relevant examples.

Or

(b) Briefly discuss about the process of selection.

17. (a) Describe how are reward systems designed in an organisation and explain the ways in which employee are rewarded in organisation set up.

Or

(b) Define Job Analysis and discuss the objective of Job Analysis.

18. (a) Briefly discuss about human resource development system.

Or

(b) Write short note on :

(i) Stress management (3)

(ii) Employee turnover (3)

(iii) Demontion. (4)

C–0405

Sub. Code
30722

M.B.A. DEGREE EXAMINATION, APRIL 2019

Second Semester

Environment and Industrial Safety

EHS LAWS

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Fumes.
2. List out some machine lifting tools.
3. List out safety precaution for gas storage.
4. Define muster roll.
5. What do you mean by welfare facility?
6. What do you mean by dangerous occurrence?
7. Name some lifting machine.
8. Define occupational disease with example.
9. What do you mean by SMPVR?
10. Give some examples for explosives.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the Workmen's compensation act, 1923.

Or

(b) Explain the public liability insurance act, 1991.

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

Or

(b) Explain the register of wages as per BOCW act 1996.

13. (a) Explain the register for overtime as per BOCW act 1996.

Or

(b) What are the welfare measures for construction workers?

14. (a) Explain the national environmental tribal act, 1995.

Or

(b) Explain the fire safety and measures in building.

15. (a) How to handle and store the gases?

Or

(b) How to handle the explosives?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Briefly explain the factories act, 1948.

Or

(b) Briefly explain the Indian boilers act, 1923.

17. (a) Explain in detail about the hazardous waste management and handling rules, 2003.

Or

(b) Explain in detail about the Bio chemical waste management and handling rules, 1998.

18. (a) Explain in detail about the Batteries management and handling rules, 2001.

Or

(b) Explain the liability insurance act, 1991.

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C–0406

Sub. Code
30723

M.B.A. DEGREE EXAMINATION, APRIL 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 Electromagnetism.
2. What is CPR?
3. What is meant by energy leakage?
4. Define earth resistance.
5. Differentiate between over voltage and under voltage.
6. What is ELCB?
7. What do you understand by Work Permit System?
8. Define Cable joints.
9. Classify the hazardous zones.
10. Define grouping of gases.

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) What are the International standards on electrical safety? Explain them.

Or

(b) Explain the rules of Indian Electricity Act.

12. (a) Explain the classification of voltage.

Or

(b) Briefly explain electrical causes of fire and explosion.

13. (a) Write detail note on cable wires.

Or

(b) Define earth faults protection. Explain them.

14. (a) What is the role of environment in selection of Electrical equipment? Explain them.

Or

(b) Write short note on Discharge rod.

15. (a) What are the Temperature classification? Explain them.

Or

(b) Explain the use of Barriers and Isolators.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the working principles of electrical equipments.

Or

(b) Write short note on :

(i) Over current and short circuit. (5)

(ii) Lightning arrester. (5)

17. (a) Briefly explain the capacity and protection of conductor.

Or

(b) Write detail note on cabling and cable joints.

18. (a) Enumerate the difference between grounding and equipment grounding.

Or

(b) What are the functional requirements of an earth system? Explain them.

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C–0407

Sub. Code
30724

M.B.A. DEGREE EXAMINATION, APRIL 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 the Vent Systems.
2. What is meant by Destructive Testing method?
3. Describe Corrosion.
4. What is meant by Commissioning?
5. Write about 'Refrigerated Storages".
6. Explain about Online Repairs.
7. How the Toxic materials are Stored?
8. What is Isolation in plant maintenance?
9. Explain the problems occurred during commissioning.
10. Describe the "Separating Distance" shortly.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Express the process of pressure testing in detail.

Or

(b) Explain the procedure of storage in "Petroleum Products".

12. (a) Describe the functions and usage of "Flame Arrester".

Or

(b) Write about the Pre — Commissioning documentations in detail.

13. (a) How many types of Chemical reactors in Industry?

Or

(b) What is "Performance Monitoring"? Explain with example.

14. (a) Define "Disaster Planning" in detail with relevant examples.

Or

(b) Write the process of "Pipe Line' Inspection in detail.

15. (a) Elaborate the "Phases in Commissioning" in detail.

Or

(b) What is Secondary Containment? Explain its benefit and hazards.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain "Shut Down" operation in detail.

Or

(b) Elaborate the procedure of "Tank Cleaning" in

(i) Petroleum Storage

(ii) Lng Storage

17. (a) Write about the process of Pressure Testing and Destructive testing in detail.

Or

(b) Describe the "Start Up" procedures with example.

18. (a) Narrate the functions and hazards in "HEAT Exchangers".

Or

(b) Detail the Acoustic Inspection in detail with relevant example.

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C–0408

Sub. Code
30725a/ 30625a

P.G. DEGREE EXAMINATION, APRIL 2019

Second Semester

Environment and Industrial Safety

SAFETY IN OIL AND GAS INDUSTRY

(2016 onwards)

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

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Draw a Bath Tub hazard curve.

2. What is the need for Safety engineers?

3. Define HAZOP.

4. Write the advantages of Markov method.

5. Briefly explain about Alexander L. Kielland Accident.

6. What are the immediate and root causes of Baker drilling barge accident?

7. Prescribe the recommendations to reduce the fatal accidents in Oil and Gas industry.

8. What are the individual Factors contributing to accidents in oil and gas industry?

9. Define: Performance measurement project.

10. What do you mean by well control incident database?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Outline the consequences of human error and explain human error classifications.

Or

(b) Write about occupational stressors.

12. (a) Discuss in detail about fault tree analysis.

Or

(b) Elaborate on interface safety analysis.

13. (a) Briefly give your answer about offshore industrial sector risk picture.

Or

(b) What are the failure and lessons learned from sea crest drillship accident? Explain.

14. (a) Write a short notes on categorization of the accident related human factors in the industrial sector.

Or

(b) Discuss in detail about the organization factors that affect the safety in industrial sector.

15. (a) Explain in detail about collision database.

Or

(b) What are the failures and lessons learned from offshore oil and gas accidents?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Draw a Bath Tub Hazard curve and Explain elaborately.

Or

(b) Explain in detail about Failure mode and effect analysis.

17. (a) Elaborate Glomar java sea drillship accident.

Or

(b) What are the factors contributing to accidents in oil and Gas industry? Discuss with examples.

18. (a) Explain:

(i) Mitigation

(ii) Preparedness and Planning.

Or

(b) Discuss in detail about Hydrocarbon release database.

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C–0409

Sub. Code
30725b

M.B.A. DEGREE EXAMINATION, APRIL 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) Briefly explain about ergonomics principles in shop floor.

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 × 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.

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C–0410	Sub. Code
	30725C/ 30625C

P.G. DEGREE EXAMINATION, APRIL 2019

Second Semester

Environment and Industrial Safety

HAZARD AND RISK MANAGEMENT

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

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Report the five types of HIRA.
2. What is the difference between ALARA and ALARP?
3. Why JSA is required? Who has to commence?
4. Give some examples of potential hazards.
5. Define : SOP.
6. Write about HAZAN.
7. Give some examples of reportable and non-reportable accidents.
8. Furnish Examples for Corrective action and preventive action.
9. What do you mean by Safety activity rate?
10. How will you calculate frequency severity incident?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write in detail about Engineering and Administrative control with examples.

Or

(b) What is Hazard? Give types of Industrial Hazards.

12. (a) List out the key elements in preparing JSA? Explain.

Or

(b) Attribute the benefits of JSA.

13. (a) Explain in detail about ETA.

Or

(b) Write a short note on failure mode and effect analysis.

14. (a) Draw the Heinrich Triangle and briefly explain it.

Or

(b) Describe Root cause and explain in detail about Root cause analysis.

15. (a) Narrate about permanent total disabilities and permanent partial.

Or

(b) What is (i) Safety T-Score (ii) Accident Rate?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) What is risk? Draw a risk matrix and explain in detail about Risk Control.

Or

(b) Discuss in detail about Accident Investigation and Reporting.

17. (a) Narrate comprehensively about domino's sequence.

Or

(b) Write in detail about SHELL model.

18. (a) Discuss personal protective equipments in detail.

Or

(b) Explain in detail about SOP.

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C–0411

Sub. Code
30731

M.B.A. DEGREE EXAMINATION, APRIL 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** the questions.

1. Define accident.

2. Define permit to work.

3. What is meant by confined space?

4. Define scaffolding. Write any two types of scaffolding.

5. Write any four hazards of excavation.

6. Define fall prevention.

7. Define fall protection.

8. Write any four types of cranes.

9. Write any four hazards of hand tools.

10. Write any four hazards of power tools.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly explain about human factors related to accident in construction industry.

Or

(b) Briefly explain about induction training and tool box talk.

12. (a) Briefly explain about hazards of excavation.

Or

(b) Briefly explain about hazards of scaffolding.

13. (a) Briefly explain about safe use of ladders.

Or

(b) Briefly explain about permit to work system.

14. (a) Briefly discuss about hazards of welding activity.

Or

(b) Briefly discuss about control measure to be taken during welding.

15. (a) Discuss in brief about health hazards from demolition activity.

Or

(b) Discuss in brief about different fire fighting methods.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail types and causes of accident in construction work.

Or

(b) Explain in detail about permit to work system. Mention the types of permits.

17. (a) Explain in detail about fall prevention and fall protection.

Or

(b) Explain in detail about safety requirements while handling cranes.

18. (a) Describe in detail about electrical safety in construction sites.

Or

(b) Write in detail about fire safety in high rise buildings.

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C–0412

Sub. Code
30732

M.B.A. DEGREE EXAMINATION, APRIL 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. Write any four types of industrial pollution.

2. What are the hazards of chlorine?

3. Define ZMS.

4. Define point of operation.

5. What are the types of safety helmet?

6. Name any four types of hand gloves.

7. Define safety inspection.

8. What is the purpose of safety valve?

9. Define OH and S Management system.

10. Name any H and S targets of an industry.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) How to safety store explosives in industries? Briefly discuss.

Or

(b) Briefly explain about effluent disposal and treatment.

12. (a) Briefly explain about fixed guard and Interlocked guard.

Or

(b) Briefly explain about zero mechanical state.

13. (a) Briefly explain about safety handling of gas cylinder.

Or

(b) Explain in brief about PPE'S required while working with lathe machine and its importance.

14. (a) Explain about engineering control and administrative control.

Or

(b) Explain about structures and features of OHSAS 18001.

15. (a) Explain about structures and features of OHSAS 18001.

Or

(b) Briefly explain about OH and Policy and its importance in developing safety culture.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe in detail about fire hydrant systems.

Or

(b) What are the health and safety procedures to be followed in refineries.

17. (a) Write in detail about hot work safety.

Or

(b) Write in detail about safety while handling, storing and transporting compresses gas cylinders.

18. (a) Define radiography. Discuss about health and safety procedures during radiography.

Or

(b) Explain about OH and S management system.

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C–0413	Sub. Code 30733

M.B.A. DEGREE EXAMINATION, APRIL 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** questions.

1. What are the types of disaster?

2. What is mitigation?

3. Define onsite.

4. What is APELL?

5. What is bio diversity?

6. What is global warming?

7. What is green philosophy?

8. Define nuclear waste.

9. What is vulnerability?

10. Define ecology.

Part B (5× 5 = 25)

Answer **all** questions.

11. (a) Explain geological metrological phenomena.

Or

(b) Explain introduction to disaster mitigation.

12. (a) Explain emergencies centers and theirs functions throughout the country.

Or

(b) Explain the forest related disaster.

13. (a) Explain environmental impact assessment.

Or

(b) What are the causes and effects of sea level rise?

14. (a) Briefly explain the immune system.

Or

(b) Explain marine pollution and control.

15. (a) Briefly explain about natural resource conservation.

Or

(b) Explain event modification and preparedness.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about land disaster and forest disaster.

Or

(b) Explain in detail about disaster and its preparedness.

17. (a) Explain in detail about monitoring devices for detection of gases in the atmosphere.

Or

(b) Explain in detail about atmospheric pollution.

18. (a) Explain in detail about state of India's and global environmental issues.

Or

(b) Explain in detail about environmental protection act.

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C–0414

Sub. Code
30734

M.B.A. DEGREE EXAMINATION, APRIL 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 hazards and risk.

2. Write difference between voluntary and involuntary risk.

3. What are the applications of differential scanning calorimeter?

4. Define card gap test.

5. Write the advantages of fault tree analysis.

6. Define FMEA.

7. What is explosion and its types?

8. Define RSST.

9. Name of any four industry disaster.

10. Define convey report.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on preliminary hazard analysis.

Or

(b) Write short notes on hazard operability studies.

12. (a) Write about deflagration test and detonation test.

Or

(b) Write about explosive testing.

13. (a) Write short note on reliability software on FMEA.

Or

(b) Write short notes on fire explosion and toxicity.

14. (a) Write short note on chemical inventory analysis.

Or

(b) Write short note on BELEVE, POOL FIRE and JET FIRE.

15. (a) Write short notes on seveso disaster.

Or

(b) Write short notes on Mexico disaster.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain about hazards analysis.

Or

(b) Explain about differential scanning calorimeter.

17. (a) Explain about reaction system screening tool.

Or

(b) Explain about failure mode effect analysis.

18. (a) Explain detail about convey report.

Or

(b) Explain detail about reactor safety study on nuclear power plant.

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C–0415

Sub. Code
30735a/ 30635a

P.G. DEGREE EXAMINATION, APRIL 2019

Third Semester

Environment and Industrial Safety

SAFETY IN POWDER HANDLING

(2016 onwards)

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

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 $(5 \times 5 = 25)$

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.

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C–0416

Sub. Code
30735b/ 30635b

P.G. DEGREE EXAMINATION, APRIL 2019

Third Semester

Environment and Industrial Safety

DOCK SAFETY

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

(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.

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C–0417

Sub. Code
30735C/ 30635C

P.G. DEGREE EXAMINATION, APRIL 2019

Third Semester

Environment and Industrial Safety

HAZARDOUS WASTE MANAGEMENT

(2016 onwards)

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

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define hazardous waste.
2. What is municipal solid waste?
3. What are the disposal options for hazardous waste?
4. Define MSIHC rule.
5. What are the treatment process for solid waste?
6. What are the things to be considered while transporting the solid waste?
7. Define environmental risk assessment.
8. Define risk.
9. What is air stripping?
10. What is solidification of hazardous waste?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe about the hazardous waste characteristics.

Or

(b) Describe about the treatment, storage and disposal of hazardous waste.

12. (a) Describe about the compatibility and flammability of chemicals.

Or

(b) Discuss about the recycle plastics usage rules.

13. (a) Write about the disposal options of solid waste.

Or

(b) Discuss about the sources of radioactive waste.

14. (a) Discuss about the methods of risk assessment.

Or

(b) Write about the incineration.

15. (a) Write a note on chemical oxidation process for hazardous waste.

Or

(b) Write a note on slurry phase bio reactor.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Describe in detail about the surface storage and land disposal of hazardous waste.

Or

(b) Describe in detail about the batteries rules.

17. (a) Discuss about the waste generation .from the-nuclear power plant and disposal options.

Or

(b) Write a note on land fill design for solid waste.

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

Or

(b) Write a note on municipal solid waste rules.

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C–0418

Sub. Code
30741/ 30641

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

ENVIRONMENTAL SAFETY MANAGEMENT

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

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is air pollution?
2. Define CFC.
3. Define ETP.
4. What are the health hazards caused by water pollutants?
5. List out the disposal methods of hazardous waste.
6. Define incineration.
7. Define absorption.
8. Define electrostatic precipitator.
9. List out any four sources for pollution in thermal power plant.
10. Define Eco-friendly energy.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write a note on hazards due to depletion of ozone.

Or

(b) Discuss about the classification of air pollutants.

12. (a) Describe about the advanced wastewater treatment.

Or

(b) Describe about the classification of water pollutants.

13. (a) Discuss about the disposal of solid waste.

Or

(b) Write a note on recycling and reuse concept.

14. (a) Describe about the gas chromatograph.

Or

(b) Discuss about the gravitational settling chambers.

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

Or

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

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Write in detail about the deforestation.

Or

(b) Describe about the sampling and analysis of water.

17. (a) Discuss about the hazards due to Bio-process dilution.

Or

(b) Discuss about the environmental measurement by using dust monitor and gas analyzer.

18. (a) Describe about the pollution sources and control measures in petroleum products industry.

Or

(b) Discuss about the ultra violet radiations and infrared radiation.

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C–0419

Sub. Code
30742

M.B.A. DEGREE EXAMINATION, APRIL 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 benefits of OHSAS certification.
2. What are the elements in OH and S management?
3. List out the benefits of OHSAS 18001.
4. What are the general principles of OHSAS 18001.
5. List out the important points in handling documentation.
6. Define Audit.
7. Define ISO 14000.
8. Define environmental policy in ISO 14001.
9. List out the stages of ISO 14000.
10. Define Eco labeling.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the Development of OHSAS standard.

Or

(b) Write down the short notes about specification and scope of OHSAS standard.

12. (a) Write down the short notes about methodology in developing action plan of OHSAS 18001.

Or

(b) Explain the short term action plan.

13. (a) Write down the structure involved OHSAS 18001.

Or

(b) Discuss the measurement techniques involved in review of OHSAS 18001.

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

Or

(b) Discuss the importance of ISO 14000.

15. (a) Explain the label and its type in environment impact assessment.

Or

(b) Write down the rules for Eco labeling.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain briefly about OH and S management system with its elements and specification.

Or

(b) Write short notes on specific goals, compliance, methodology planning for OHSAS 18001.

17. (a) Discuss the importance of ISO 14000 to the management and auditing ISO 14000.

Or

(b) Explain briefly about Eco labeling and its rules.

18. (a) Write short notes about:

(i) Steps in Audit,

(ii) The principles of Environmental audit

Or

(b) What are the steps and procedures in records managements and handling documentation of OHSAS 18001?

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C–0420

Sub. Code
30743A/30643A

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

TRANSPORT SAFETY MANAGEMENT

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

(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 × 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.

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C–0421

Sub. Code
30743b/ 30643b

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

FOOD SAFETY

(2016 onwards)

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

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Bacteria.
2. What are Fungi and its causes?
3. Define Bacterial food poisoning.
4. What is known as parasitic infections?
5. Define poultry.
6. What is known as dehydrated foods?
7. Define welfare.
8. Define Noise.
9. Define HACCP.
10. What is known as microbiology.

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain the types of Bacterial in foods and its effect.

Or

(b) Discuss the characteristics of Fungi and its effect.

12. (a) Write short notes on:

(i) Salomonellas,

(ii) Campylobacter.

Or

(b) Discuss the chemical poisoning of food and its effect.

13. (a) Explain the effect of Dairy product.

Or

(b) Discuss the briefly about spoilage of vegetables and fruits and its effect.

14. (a) Explain the procedure involved in handling of food materials.

Or

(b) Write down some valuable point in welfare in food industries.

15. (a) Discuss the objective of HACCP.

Or

(b) Explain the critical control points and critical limits in food industries.

Part C (3 × 10 = 30)

Answer **all** questions.

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

Or

(b) Explain briefly about food poisoning and bacterial food poisoning and its causes.

17. (a) Discuss briefly about the risk and effect of spoilage of fresh meat, vacuum packed meat and egg product.

Or

(b) Explain briefly about storage, processing area, labs in food industries.

18. (a) Explain briefly about HACCP and quality schemes of HACCP.

Or

(b) Write short notes on:

(i) The risks involved in Packaging food.

(ii) Transport and distribution of food.

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C–0422

Sub. Code
30743C/ 30643C

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

SAFETY EQUIPMENTS AND PROCEDURES

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

(2016 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. List out the some point in maintenance of PPE.
2. List out the types of PPE.
3. Define ELCB.
4. What is known as Dosimeter?
5. What is fire?
6. What is known as fire bucket?
7. List out the Non-respiratory PPE.
8. List out the types of gloves.
9. List out the types of harness.
10. What is known as Rope grab and retractable arrestor?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the IS codes for PPE.

Or

(b) Explain the selection criteria for PPE.

12. (a) Discuss briefly about the emergency shower and eye washer.

Or

(b) Write short notes on:

(i) Winch tripad.

(ii) Dosimeter.

13. (a) Explain briefly about heat detector.

Or

(b) Explain the classes of fire.

14. (a) Explain briefly about SAR and its types.

Or

(b) Explain briefly about chemical and mechanical filters.

15. (a) Explain briefly about Lanyard and its types.

Or

(b) Explain briefly about chute line and its types.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain briefly about PPE and its types.

Or

(b) Explain briefly about circuit protection devices.

17. (a) Explain briefly about Fire alarm system.

Or

(b) Explain briefly about the sprinklers system.

18. (a) Explain briefly about respiratory PPE and its types.

Or

(b) Explain briefly about active and passive fire protection and its types.

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C–0423

Sub. Code
30744a/30644

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment And Industrial Safety

NUCLEAR SAFETY

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

(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 $(5 \times 5 = 25)$

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 × 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.

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C–0424

Sub. Code
30744 b/ 30644 b

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

SAFETY IN TEXTILE INDUSTRIES

(2016 onwards)

(Common for M.B.A.(E&I.S)/M.Sc.(HSM))

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define combing.
2. Define carding.
3. List out the types of guarding.
4. What do you mean by spinning?
5. Define scouring.
6. Define bleaching.
7. What is Non-woven?
8. What do you mean by Wrapping?
9. What is Dyeing?
10. Define Noise.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) List out the permissible exposure for noise.

Or

(b) Discuss the types of PPE.

12. (a) List out the hazards which may exists in textile industry and how to control it?

Or

(b) What are the various causes for accidents?

13. (a) Explain the efficient treatment process.

Or

(b) What are the welfare measures specific to textile industry?

14. (a) Explain the mechanical finishing operation.

Or

(b) Explain the short staple spinning.

15. (a) What do you mean by Jute spinning?

Or

(b) Explain the accident prevention control.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Briefly explain the machine guarding.

Or

(b) Briefly explain the occupational disease in textile industry.

17. (a) Explain the special precautions for specific hazardous work environment.

Or

(b) Explain the factories act.

18. (a) Explain the following :

(i) Rotor,

(ii) Spinning,

(iii) Winding,

(iv) Wraping.

Or

(b) Explain the hazards due to steam and discuss about the shuttle looms.

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C–0425	Sub. Code
	30744C/ 30644C

P.G. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Environment and Industrial Safety

MAINTENANCE ENGINEERING

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

(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.

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