

C-8852

Sub. Code

84221

M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

EHS LAWS AND ACTS W.R.T. RAIL INDUSTRY

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Ventilation.
2. Define Young person.
3. What is artificial humidification?
4. What is Muster roll?
5. List some of the occupational diseases.
6. Define Hazardous chemical.
7. Define competent authority.
8. Write short note on Duties of a commissioner.
9. Define Noise.
10. What is a pressure vessel?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on Disposal of waste and effluents.

Or

- (b) Write short notes on
(i) Working hours
(ii) Special provisions

12. (a) Write short notes on register for overtime and employment.

Or

- (b) Write short notes on Register of wages.

13. (a) Write short notes on Water act 1974.

Or

- (b) Discuss about National tribunal act 1995.

14. (a) Write short notes on commissioning of railway safety.

Or

- (b) Write short notes on railway administrators.

15. (a) Write short notes on Noise rules 2000.

Or

- (b) Write short notes on Dangerous machines act 1983.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about Hoists and Lifts.

Or

(b) Discuss in briefly about Environment act 1986.

17. (a) Discuss in brief about notice of accidents and dangerous occurrences.

Or

(b) Discuss in brief about SMPV rules 1981.

18. (a) Explain in detail about Indian boilers act 1923.

Or

(b) Write short notes on

(i) Fencing of machinery

(ii) Power of Inspectors

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M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

INTERNATIONAL STANDARDS ON RAIL INDUSTRY

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the benefits of IRIS?
2. Expand IRIS.
3. Define Quality management system.
4. Define Certification bodies.
5. What is UNIFE?
6. Define ISO/TS 22163.
7. What is normative reference?
8. Define Certification audit.
9. Write the scope of IRIS standard.
10. What are the types of audits in IRIS certification procedure?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on impact of changes.

Or

- (b) Write short notes on system integrators.

12. (a) Discuss about Quality management system.

Or

- (b) Write short notes on resource management.

13. (a) Discuss about compilation of information questionnaire.

Or

- (b) Write short notes on readiness review audit.

14. (a) Discuss the importance of ISO/TS 22163.

Or

- (b) Write short notes on performance evaluation of ISO/TS 22163.

15. (a) Write short notes on Leadership and worker participation.

Or

- (b) Write short notes on normative reference of ISO 45001.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail about recertification audit.

Or

- (b) Explain the management responsibility.

17. (a) Explain the evaluation methodology of IRIS.

Or

- (b) Discuss in detail about ISO/TS 22163.

18. (a) Explain briefly about organization registration for membership at the UNIFE portal.

Or

- (b) Explain ISO 45001.
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M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

SAFETY IN MATERIAL HANDLING

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define manual material handling.
2. List the PPE's used in Manual material handling.
3. What is a crane?
4. Define Kinking.
5. What is a Derrick?
6. Define Conveyors.
7. What are types of slings?
8. What is rigging?
9. What are the types of drives?
10. Define Ergonomics.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on personal protection in manual material handling.

Or

- (b) Discuss about handling specific shape machines and other heavy objects.

12. (a) Write short notes on turn table failure.

Or

- (b) Write short notes on crane hand signals.

13. (a) Write short notes on conveyor regulations.

Or

- (b) Discuss about material hoist and overhead hoist.

14. (a) Write short notes on

- (i) Wire rope life
(ii) Field lubrication.

Or

- (b) Write short notes on weight and centre of gravity of the load.

15. (a) Write short notes on ergonomics and safety consideration in Powered Industrial truck.

Or

- (b) Write short notes on requirement of PIT.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about storage of specific materials in manual handling.

Or

- (b) Discuss the problem with hazardous materials.

17. (a) Discuss in detail about safe use and maintenance of chain slings.

Or

- (b) Discuss the reasons for crane accidents.

18. (a) Write short notes on

(i) Electric truck

(ii) LPG truck

Or

- (b) Explain the storage and handling of cryogenic liquids.
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84224

M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

ENVIRONMENTAL STUDIES

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is an Environment?
2. What are renewable resources?
3. Define Eco system.
4. Define food web.
5. Define Biodiversity.
6. Define autotrophs.
7. What are the types of environmental pollution?
8. Define Bioaccumulation.
9. Define radiation.
10. Define Over exploitation.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on causes of deforestation.
Or
(b) Discuss about uses of mineral resources.
12. (a) Discuss the effects of modern agriculture.
Or
(b) Discuss the causes of soil Erosion.
13. (a) Discuss the types of food chain.
Or
(b) Discuss about abiotic components.
14. (a) Write short notes on sources of thermal pollution.
Or
(b) Discuss the value of biodiversity.
15. (a) Discuss the noise pollution control measures.
Or
(b) Write short notes on steps involved in field work.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the importance of conservation of fresh water resources.
Or
(b) Discuss the timber extraction and its effects on forests.

17. (a) Discuss in detail about effects and control measures of air pollution.

Or

(b) Discuss the biographical classification of India.

18. (a) Discuss in detail about effect of nuclear hazards on environment.

Or

(b) Discuss in detail about solid waste management.

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84225A

M.B.A. DEGREE EXAMINATION, APRIL 2023

Second Semester

Rail Safety Management

HEALTH HAZARDS IN RAIL INDUSTRY

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Noise.
2. What is Hypothermia?
3. What are the types of Air sampling Devices?
4. Expand OSHAS.
5. Define Bio Hazard.
6. What is Carpal Tunal Syndrome?
7. Define CPR.
8. Write the Effects of Silicosis.
9. What is a Work Organization?
10. Define Ergonomics.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on Permissible Exposure Limit.

Or

- (b) Write short notes on.
(i) Hearing Conversation program.
(ii) Industrial Audiometry.

12. (a) Explain the Sampling methodology.

Or

- (b) Explain Dust collection sampling devices.

13. (a) Write short notes on.

- (i) Bacterial Agents.
(ii) Rickettsial and Chlamydial Agents.

Or

- (b) Write short notes on animal care and handling.

14. (a) Write short notes on Concept of spectrum of health.

Or

- (b) Write short notes on Audiometric test.

15. (a) Write short notes on Allocation of functions.

Or

- (b) Write short notes on Stress, Strain and Fatigue.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about Ionizing radiation.

Or

(b) Explain Cardio Pulmonary Resuscitation.

17. (a) Explain the classification of Bio hazardous agents.

Or

(b) Discuss briefly about Pre employment and post employment Examination.

18. (a) Explain in detail about work organization.

Or

(b) Write short notes on.

(i) Employee Health program.

(ii) Laboratory safety program.

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84225B

M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

HUMAN PHYSIOLOGY AND ERGONOMICS

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the Ergonomic Hazards?
2. What is Risk Factor?
3. What is MSD?
4. Define Behaviour Based Safety.
5. Write the applications of Anthropometry.
6. Define Attitude.
7. What are the sources of human variability?
8. Expand REBA, RULA.
9. List some manual handling injuries.
10. What is Cognitive system?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on biomechanics and anatomy of spine and pelvis.

Or

- (b) Discuss the behavior aspects of postures.

12. (a) Write short notes on fitting man to the Job.

Or

- (b) Write short notes on determination of attitudes and changing attitudes.

13. (a) Write short notes on work surface design.

Or

- (b) Write short notes on Visual display units.

14. (a) Write short notes on prevention of manual handling injuries.

Or

- (b) Write short notes on measurement of work effort and fatigue.

15. (a) Write short notes on problem solving and effectiveness.

Or

- (b) Write short notes on Combining displays and control.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in briefly about modern ergonomics and future direction for ergonomic.

Or

- (b) Explain Behaviour based safety in detail.

17. (a) Write short notes on.

- (i) Noise Lifting equation.
(ii) Measurement of work effort and fatigue.

Or

- (b) Explain the principles of applied Anthropometry in ergonomics

18. (a) Discuss briefly Job enrichment theory.

Or

- (b) Discuss the principles for design of visual and auditory display.
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C-8858

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84225C

M.B.A. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Rail Safety Management

**HAZARD IDENTIFICATION, RISK ASSESSMENT AND
RISK CONTROL**

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Risk.
2. Define Hazard.
3. What is risk estimation?
4. Define Risk management.
5. Define Qualitative analysis.
6. Define Data collection.
7. What is SIL?
8. Expand FMEA.
9. Define Explosion.
10. What are the classifications of Electrical area?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on PHA & ALARP.

Or

- (b) Write short notes on Safety Instrumentation.

12. (a) Write short notes on Hazard identification.

Or

- (b) Write short notes on Evaluation of plant hazard selection techniques.

13. (a) Write short notes on Fault tree analysis.

Or

- (b) Discuss Layer of protection analysis.

14. (a) Write short notes on SIL certification and standards.

Or

- (b) Discuss FMEA methodology.

15. (a) Write short notes on Operation and maintenance of safety instrumentation system.

Or

- (b) Write short notes on Explosion protection.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the comparison of various PHA methods.

Or

- (b) Discuss in briefly about Risk register, Risk matrix and Risk ranking.

17. (a) Write short notes on.
- (i) What if analysis.
 - (ii) Human reliability analysis.

Or

- (b) Write short notes on.
- (i) Computer HAZOP.
 - (ii) Intelligent HAZOP.
18. (a) Discuss the principles the erection, commission and validation of Safety instrumentation system.

Or

- (b) Discuss briefly about the Electrical area classification.
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