(6)

Program: B. Sc. in Industrial and Production Engineering **Date: 16 May, 2024 (Thursday)**
Semester: 4th **Time: 10:00 am – 01 pm (Morning)**

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

Semester Final Examination **Summer Semester: 2022 - 2023**
Course Number: IPE 4405 **Full Marks: 150**
Course Title: Industrial Law and Management **Time : 3 hours 30**

There are **6 (six)** questions. Answer **all** the questions. Marks of each question and the corresponding CO and PO are written in the brackets.

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1. a) Explain different types of industry and their significance in the economy, employment, and technological development **(10) (CO1) (PO1)**

b) Discuss conditions of retrenchment and procedure of re-employment of retrenched workers as per Bangladesh labor law 2006. **(10) (CO1) (PO1)**

c) How the extra allowance for overtime is calculated? Explain with an example. **(05) (CO1) (PO1)**

2. a) Discuss different types of workers according to Bangladesh Labor Law. **(10) (CO1) (PO1)**

b) Discuss the prohibition of appointment of Child Labor & Adolescent. **(10) (CO1) (PO1)**

c) Write a short note on the Montreal Protocol and Kyoto Protocol. **(05) (CO1) (PO1)**

3. a) How does cloud cover affect air pollution? Also, discuss the impact of cloud types on air pollution **(08) (CO2) (PO2)**

b) What are the sources of biogenic emissions? Also, mention the impacts and control measures of it. **(08) (CO2) (PO2)**

c) Discuss different types of air filtration systems for controlling indoor air pollution. **(05) (CO2) (PO2)**

d) What are the techniques for radon testing? Also, explain radon mitigation solutions. **(04) (CO2) (PO2)**

4. a) Briefly discuss control devices for gaseous pollutants by absorption with proper illustration. **(10) (CO2) (PO2)**

b) Describe the techniques for enhancing the mass transfer of pollutants with proper figures. **(10) (CO2) (PO2)**

c) Write a short note on the biofiltration system. (05) (CO2) (PO2)

5. a) What is cryogenic condensation? Explain the air purification system using cryogenic techniques. (10) (CO2) (PO2)

b) Explain techniques and technologies for dust suppression. (10) (CO2) (PO2)

c) Discuss ways to improve the mine ventilation system. (05) (CO2) (PO2)

6. a) Discuss briefly the major steps of ETP in a Textile Dyeing Factory (20) (CO3) (PO3)

b) How can we conserve natural resources? Explain briefly. (05) (CO3) (PO3)