PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025

(Fourth Semester)

Branch - ENVIRONMENTAL SCIENCE

MAJOR ELECTIVE COURSE – II: OCCUPATIONAL HEALTH AND SAFETY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

 $(10 \times 1 = 10)$

Module No.	Question No.	Question	K Level	СО
1	1	Which of the following is NOT a key principle of Occupational Health and Safety (OHS)? A) Preventive measures to reduce workplace hazards B) Providing medical treatment after the occurrence of an injury C) Promoting a safe and healthy working environment D) Continuous monitoring and improvement of health and safety systems	K1	CO1
	2	What is the purpose of periodic medical examination of workers in the context of occupational health? A) To determine an employee's fitness for promotion B) To monitor and identify early signs of occupational diseases C) To assess the risk of injury in the workplace D) To provide health insurance coverage to workers	K2	COI
_	3	Which of the following is / are a potential route of occupational exposure to chemicals? a) Inhalation b) Physical contact with skin c) Ingestion d) All of the above	K1	CO2
2	4	Which of the following is the most common effect of prolonged exposure to industrial solvents? a) Skin irritation b) Respiratory problems c) Eye damage d) Liver damage	K2	CO2
	5	Which of the following is the most effective control measure to prevent the transmission of biological agents in a laboratory setting? A) Proper sterilization of equipment B) Wearing personal protective equipment (PPE) C) Proper ventilation in the work area D) All of the above	K1	CO3
3	6	Which of the following is a key safety measure to prevent electrical hazards at work sites? A) Using conductors with excessive capacity B) Ensuring proper insulation and grounding of electrical circuits C) Avoiding the use of circuit breakers D) Short-circuiting to test electrical systems	K2	CO3
4	7	Which of the following is NOT a requirement for personal protective equipment (PPE)? a) It should be comfortable for the user b) It should be easy to clean and maintain c) It should be made of materials that promote airflow d) It should protect the user from potential hazards	K1 .	CO4
	8	Which type of fire extinguisher is most suitable for electrical fires? a) Water extinguisher b) Foam extinguisher c) CO ₂ extinguisher d) Dry powder extinguisher	K2	CO4
5	9	Which of the following is a standard for Occupational Health and Safety (OHS) management systems? a) ISO 9001:2015 b) OHSAS 18001:2007 c) ISO 14001:2004 d) ISO 50001:2011	K1	CO5

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5	What is the purpose of the International Labour Organization (ILO) convention on occupational health and safety? a) To standardize product quality globally b) To ensure fair wages for workers c) To promote and ensure safe working conditions globally d) To regulate international trade between nations	K2	CO5	
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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry **EQUAL** Marks $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	со
1	11.a.	Explain the role of occupational health management services at the workplace, including pre-employment and periodic medical examinations.	K3	CO1
		(OR)	_	
	11.b.	Describe the principles of Occupational Health and Safety (OHS).	 	ļ
	12.a.	Describe the types of industrial sources of chemical exposure and explain how these chemicals can impact human health.		CO2
2		(OR)		
	12.b.	Discuss the Globally Harmonized System (GHS) for classification and labeling of chemicals. How does it help in occupational safety?		
	13.a.	Discuss the various classes of biological agents.	K3	CO3
_		(OR)		
3	13.b.	Explain the safety measures and control practices to manage electrical hazards in an industrial setting.		
	14.a.	Explain the importance of hand protection and describe the different types of hand protection equipment.		CO4
4		(OR)	_ K4	
	14.b.	Discuss the role of fire safety in industrial settings, including fire prevention and the use of fire extinguishers.		
5	15.a.	Discuss the role of BIS (Bureau of Indian Standards) in promoting safety and health in the workplace.	_	CO5
		(OR)	K3	
	15.b.	Explain the key components of an effective Safety Training Program and its importance in maintaining Occupational Health and Safety.		

SECTION -C (30 Marks) Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3\times10=30)$

Module No.	Question No.	Question	K Level	CO
1	16	Discuss the major occupation-related diseases, the levels of prevention for these diseases, and how occupational hygiene, ergonomics, and workplace health measures contribute to disease prevention.	K4	CO1
2	17	Explain the different types of particulate hazards in the workplace and the control measures that can be implemented to minimize exposure to these hazards.	K5	CO2
3	18	Describe the process of anticipating, recognizing, and controlling biological hazards in the workplace. Include sterilization and disinfection methods and their significance in the process.	K4	CO
4	19	Describe the requirements for respiratory protective equipment (RPE), the process of fit testing, and its importance.	K4	CO4
5	20	Describe the framework of Occupational Health and Safety Management Systems (OHSMS) and its role in preventing workplace accidents.	K5	COS