

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(Fourth Semester)

Branch – **CHEMISTRY**

MAJOR ELECTIVE COURSE – II ENVIRONMENTAL CHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5 x 1 = 5)

- 1 Which layer of atmosphere is rich in ozone and has no clouds?
(i) Exosphere (ii) Mesosphere
(iii) Stratosphere (iv) Troposphere
- 2 Increase in the concentration of in atmosphere to 0.4 ppm caused London smog.
(i) CO₂ (ii) SO₂ (iii) NO₂ (iv) O₃
- 3 Minamata disease in Japan was caused by
(i) dumping mercury waste into the sea
(ii) spilling 95,000 tons of crude oil into the sea
(iii) discharging organic waste into the lake
(iv) discharging industrial effluent into the river
- 4 The Clark's process of softening of water involves
(i) the addition of soda ash to hard water
(ii) the liming of hard water
(iii) the lime treatment followed by addition of soda ash
(iv) the treatment of hard water with ion exchange resin
- 5 Warfarin is used as
(i) insecticide (ii) herbicide
(iii) fungicide (iv) rodenticide

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

- 6 a Explain the components of environment.
OR
b Explain the objectives and principle of environmental education.
- 7 a Justify the influence of green house effect on global warming.
OR
b Analyze the effects of acid rain.
- 8 a Explain the causes of biological water pollution and physiological water pollution.
OR
b Analyze the methods to prevent thermal pollution.
- 9 a Outline the water purification process employed for municipal purpose.
OR
b Discuss any one method of determining hardness of water.
- 10 a Elaborate the effects of industrial soil pollutants.
OR
b Analyze the environmental effects of pesticide pollution.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a Define the term "pollution". What are the different types of pollution?
OR
b Illustrate various processes involved in the carbon cycle.
- 12 a Analyze the sources and effects of NO_x pollution.
OR
b Enumerate the sources and effects of hydrocarbon pollution.
- 13 a Justify the sources and effects of river water pollution.
OR
b What are the effects of eutrophication? Mention the methods to control eutrophication.
- 14 a Develop the methods of desalinization of sea water.
OR
b Appraise the primary and secondary methods of sewage treatment.
- 15 a Analyze any two solid waste management processes.
OR
b Elucidate the somatic and genetic effects of radiation on man.

Z-Z-Z

END