

69/2015

(Pages : 4)

Maximum : 200 marks

Time : 1½ hours

**PART I**

**Answer ALL questions. Answer in one word or a sentence.**

**Questions 1 to 30 carry 4 marks each.**

1. Chemolithotrophs derive energy from :
  - (a) Sunlight
  - (b) Organic compounds
  - (c) The oxidation of reduced inorganic compounds
  - (d) Denitrification
  
2. The route of entry of polio virus is :
  - (a) Contaminated food
  - (b) Contaminated water
  - (c) Blood transfusion
  - (d) Mosquito bites
  
3. Animals that feed on relatively large pieces of dead organic matter are called :
  - (a) Parasites
  - (b) Holozoons
  - (c) Predators
  - (d) Macro consumers
  
4. Energy available in fuels is stored as :
  - (a) Heat energy
  - (b) Chemical energy
  - (c) Atomic energy
  - (d) Explosive energy
  
5. Malaria is caused by :
  - (a) Nutritional deficiency in moist tropical regions
  - (b) A parasitic protozoan
  - (c) An allergic reaction to mosquito bites
  - (d) Poor sanitary conditions
  
6. The Kyoto protocol entered into force in :
  - (a) 2005
  - (b) 2009
  - (c) 1997
  - (d) 2010
  
7. Which one of the following trees has medicinal value?
  - (a) Pine
  - (b) Teak
  - (c) Neem
  - (d) Oak

[P.T.O.]

8. Sustainable development refers to :
- (a) Satisfying human needs while preserving the environment
  - (b) Industrial development by maintaining steady flow of raw materials
  - (c) Self sufficiency in energy needs
  - (d) Sustaining the quality of life of citizens by industrial development
9. The freshwater lake that is the source of daily water use for Kollam is :
- (a) Ashtamudi lake
  - (b) Vembanad lake
  - (c) Paravoor lake
  - (d) Sasthamkotta lake
10. A biodiversity hotspot in Kerala is :
- (a) Kumarakam
  - (b) Western Ghats
  - (c) Bekel Fort
  - (d) Vembanad Lake
11. The primary source of organic pollution in fresh water bodies is :
- (a) Urban run-off
  - (b) Run-off from agricultural fields
  - (c) Industrial discharge
  - (d) Sewage effluent
12. Which one of the green house gases has the shortest residence time in the atmosphere?
- (a) Nitrous oxide
  - (b) Chlorofluoro carbon
  - (c) Carbon dioxide
  - (d) Methane
13. Which of the following cities is worst effected by urban smog in recent times?
- (a) Los Angels
  - (b) London
  - (c) Beijing
  - (d) New Delhi
14. Radiation can act as a mutagen because it :
- (a) Deactivates the immune system
  - (b) Interferes with the activities of nerve cells
  - (c) Causes muscles to grow at unusual rates
  - (d) Damages genetic material in cells
15. Among the most important characteristics of chemical in determining their environmental risks is/are :
- (a) Solubility
  - (b) Persistence
  - (c) Reactivity
  - (d) All of these
16. What is largest contributor to carbon dioxide emission in India ?
- (a) Burning coal
  - (b) Firewood
  - (c) Coal
  - (d) Cooking gas

17. General limiting factor for primary productivity in aquatic ecosystem is :
- (a) Nitrogen (b) Phosphorus  
(c) Sulphur (d) Carbon
18. The Montreal Protocol called for the complete phase out of :
- (a) CFC's (b) DDT  
(c) PCB's (d) CO<sub>2</sub>
19. The MSW of an Indian town has on an average of \_\_\_\_\_ biodegradable matter.
- (a) 42% (b) 10%  
(c) 82% (d) 73%
20. The major cause behind the damage of historical buildings like Taj Mahal is :
- (a) Atmospheric Ozone  
(b) Presence of Sulphuric acid in environment  
(c) Increased CO<sub>2</sub> concentration  
(d) Polluted water in rivers
21. The process of establishing a forest in a non-forest area is said to be:
- (a) Reforestation (b) Social forestry  
(c) Agro forestry (d) Afforestation
22. The greatest threat to the sustainability of agriculture in India is :
- (a) Agro-chemical pollution (b) Transgenic crops  
(c) High yielding crops (d) Soil mismanagement
23. The major source of electric power generation in India is :
- (a) Thermal (b) Hydel  
(c) Nuclear (d) Wind
24. Biomedical waste may be disposed by :
- (a) Incineration (b) Autoclaving  
(c) Land filling (d) Both (b) and (c)
25. Which of the following is likely characteristic of hazardous waste?
- (a) Ignitability (b) Corrosive  
(c) Reactivity (d) Any of the above
26. The largest coral reef in the world is found near the coast of :
- (a) Australia (b) Cuba  
(c) Ghana (d) Philippines

27. Which of the following reacts with haemoglobin of blood to produce toxic effect?  
(a) Carbon dioxide (b) Carbon monoxide  
(c) Oxygen (d) Nitrogen dioxide
28. North east monsoon brings maximum rainfall to :  
(a) Mumbai (b) Delhi  
(c) Kolkata (d) Chennai
29. A test widely used in treatment facilities along with BOD to indicate toxic substances or biologically resistant organic substances is :  
(a) Measure of electrical conductivity (b) Measure of pH  
(c) Determination of Heavy metals (d) Measure of COD
30. The role of  $N_2O$  in the stratosphere is to :  
(a) Increase the global warming potential (b) Enter the ozone destruction cycle  
(c) Produce more of nitrate (d) Induce acid rain

(30 × 4 = 120)

## PART II

Answer ALL questions. Answer shall be limited to one paragraph.  
Questions 31 to 38 carry 10 marks each.

31. What are the major reasons for the accumulation of e-waste in recent years?
32. Explain 'photochemical smog' and its effects.
33. Elaborate on household hazardous wastes and its disposal.
34. Write notes on the impact Ozone depletion and Global warming.
35. Discuss in detail the importance of wetlands.
36. Comment on biomagnifications of pesticides through food chain.
37. Write down the physiological and psychological effects of noise pollution on human beings.
38. What is meant by biodiversity hotspot? How many biodiversity hotspots are there in India and name them?  
(8 × 10 = 80)