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Roll No. ....

**GCA-201(A)**

**B. C. A. (SECOND SEMESTER)  
END SEMESTER EXAMINATION,  
July/Aug., 2022**

**BIOMEDICAL WASTE MANAGEMENT**

**Time : Three Hours**

**Maximum Marks : 100**

Note : (i) Attempt all questions.

(ii) Each question carries 2 marks.

1. Which of the following can be used to produce marketable compost from dry solid wastes ?

- (a) Aerobic composting
- (b) Vermi-composting
- (c) Anaerobic composting
- (d) Anaerobic digestion

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2. Which of the following waste is not categorized as Hazardous waste ?

- (a) Garbage
- (b) Industrial waste
- (c) Hospital waste
- (d) Laboratory waste

3. Which of the following organism degrade the organic matter thereby, transfer the matter to the environment ?

- (a) Methanogens
- (b) Manganese
- (c) Carbon dioxide
- (d) Methane

4. As per sec. 2 (a) of Environment Protection Act 1986, Environment refers to :

- (a) Water, air and land
- (b) The inter-relationship which exists among and between water, air, land and human beings.
- (c) Other living creatures, plants and microorganisms.
- (d) All of the above

5. The Environment Protection Act, 1986 passed in march 1986, it came into force on :  
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- (a) 1 April 1986
- (b) 1 July 1986
- (c) 19 November 1986
- (d) 1 January 1987

6. The Government of India enacted the Environment Protection Act 1986 under Article ..... of the constitution of India.

- (a) 253

- (b) 249

- (c) 301

- (d) 251

7. Environment Protection Act 1986 contains ..... sections divided into ..... chapters.

- (a) 28 and 4

- (b) 26 and 4

- (c) 20 and 2

- (d) 30 and 3

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8. Biomedical waste includes the waste from :  
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- (a) Hospital waste
- (b) Laboratories waste
- (c) Waste from research facilities
- (d) All of the above

9. Which of the following should not be mixed with other wastes to avoid contamination ?

- (a) Tarry residue
- (b) Oily sludge
- (c) Animal waste
- (d) Vegetable oil

10. Which of the following is not a waste treatment method for biomedical wastes ?

- (a) Incineration
- (b) Chemical disinfecting
- (c) Autoclaving
- (d) Sieving

11. Which coloured bag is used for the collection and storage of Human Anatomical waste ?

- (a) Red
- (b) Yellow
- (c) White
- (d) Blue

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12. Red coloured bags or containers are used for the collection of waste.

- (a) Glassware
- (b) Expired medicines
- (c) Contaminated waste
- (d) None of the above

13. Which of the following method is used for the treatment of human anatomical waste ?

- (a) Incineration
- (b) Autoclaving
- (c) Chemical disinfectant
- (d) None of the above

14. According to plastic waste management act 2016, the thickness of plastic bags should be increases up to :

- (a) 50 microns
- (b) 0.5 micron
- (c) 70 microns
- (d) 25 microns

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15. Which of the following method is used for the treatment of sharp waste or metals according to biomedical waste management ?

- (a) Incineration
- (b) Autoclaving
- (c) Chemical disinfectant
- (d) All of the above

16. Autoclaves are used in the medical applications to perform .....

- (a) Vulcanization
- (b) Heating
- (c) Sterilization
- (d) Cleaning

17. What is the common temperature used in autoclaves ?

- (a) 109 degrees
- (b) 121 degrees
- (c) 135 degrees
- (d) 142 degrees

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18. Sterilization with the help of Autoclave is based on which principle?

- (a) Dry heat sterilization
- (b) Radiation
- (c) Moist heat sterilization
- (d) None of the above

19. Which of the following best describes the process of 'Disinfection'?

- (a) The elimination of all forms of microorganisms and bacterial spores.
- (b) The elimination of all forms of bacterial spores.
- (c) The reduction or elimination of microorganisms and bacterial spores.
- (d) The reduction or elimination of many microorganisms and some bacterial spores.

20. Name the sterilization agent that is most frequently used in hospitals and clinical laboratories for the heat-labile liquid substances or antibiotics.

- (a) Dry heat
- (b) Radiation
- (c) Filtration
- (d) Formaldehyde

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21. Identify the temperature and time period commonly used for the hot air oven while sterilizing glassware in the laboratory

- (a) 180 degrees Celsius for 30 mins
- (b) 63 degrees Celsius for 30 mins
- (c) 121 degrees Celsius for 15 mins
- (d) 1000 degrees for 30 mins

22. Nonionizing radiation and ionizing radiation are sterilization methods mainly used in hospitals. Ultraviolet radiation is an example of nonionizing radiation, name the ionizing radiation?

- (a) Infrared
- (b) X-rays and gamma rays
- (c) Helogens
- (d) Ethylene oxide

23. Which of the following sterilizing agent is found to have bacterial sporicidal activity?

- (a) Hot air oven
- (b) Ethyl alcohol
- (c) Autoclave
- (d) All of the above

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24. Which of the following methods has been found safe and effective in the elimination of COVID-19 ?
- (a) Use of 60-70 % Ethyl alcohol
  - (b) Use of 25% of NaCl
  - (c) Use of 25% Ethyl alcohol
  - (d) All of the above
25. Which of the following is NOT an example of physical sterilization ?
- (a) Disinfectant
  - (b) Autoclave
  - (c) Microwave
  - (d) Radiation sterilization
26. Sterilization through microwave is based on which principle ?
- (a) Moist heat
  - (b) Chemical
  - (c) Dry heat
  - (d) None of the above
27. When did Hazardous waste management act enacted in India ?
- (a) 1988

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- (b) 1989
  - (c) 1990
  - (d) 1991
28. What is the goal of Hazardous Waste Management unit ?
- (a) Protect health and environment by risks of hazardous waste
  - (b) Chemical analysis
  - (c) Import
  - (d) Export
29. When can we classify waste as hazardous ?
- (a) When waste won't cause any mortality
  - (b) When waste increase mortality
  - (c) When waste decrease mortality
  - (d) When waste decompose itself without any aid.
30. What is a toxic waste ?
- (a) Substances those are not poisonous
  - (b) Substances those are poisonous only when it taken in large quantity.
  - (c) Substances those are poisonous even when it taken in small quantity.
  - (d) Substances which work as an antidote for toxic materials.

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31. What is an ignitable waste ?

- (a) Waste which can burn relatively at low temperature.
- (b) Waste which can burn relatively at high temperature.
- (c) Waste which doesn't burn.
- (d) Waste which doesn't produce temperature.

32. Where we can get radioactive wastes ?

- (a) Small scale industries.
- (b) Houses
- (c) Nuclear power plants
- (d) Vehicular wastes.

33. Which of the following is a hazardous substance ?

- (a) Gold
- (b) Lead
- (c) Copper
- (d) Iron

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34. What are objectives of Environmental protection act ?

- (a) To provide protection and improvement of environment.
- (b) To prevent environmental pollution.
- (c) To appoint environment officers to check environmental pollution.
- (d) All of the above.

35. Which of the following chapter of environmental protection act 1986 include the prevention, control and abatement of environmental pollution ?

- (a) Chapter 1
- (b) Chapter 2
- (c) Chapter 3
- (d) Chapter 4

36. Chapter 1 of environmental protection act 1986, includes :

- (a) Short title
- (b) Definitions
- (c) Commencement
- (d) All of the above

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37. An engineered facility for the disposal of municipal solid waste is called :

- (a) Septic tank
- (b) Sanitary landfills
- (c) Dug wells
- (d) Tandom landfills

38. In solid waste management, waste utilization is achieved by :

- (a) Recover, reclamation and reproduce
- (b) Reuse, reclamation and recycling
- (c) Recover, recycling and reproduce
- (d) Reuse, reproduce and recycling.

39. The best method of disposal of refuse to ensure complete destruction of pathogenic bacteria is by :

- (a) Land disposal
- (b) Incineration
- (c) Pulverisation
- (d) Mechanical compositing

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40. Problem of solid waste disposal can be reduced through .....

- (a) Recycling
- (b) Lesser pollution
- (c) More timber
- (d) Population control

41. Which of the following is a method of chemical sterilization ?

- (a) Autoclave
- (b) Microwave
- (c) Radiation
- (d) Using ethyl alcohol

42. How long does it take for a plastic bag to decompose ?

- (a) Up to 5 days
- (b) Up to 5 years
- (c) Up to 1000 years
- (d) Never

43. What are the 3 R's ?

- (a) Reduce, Reuse and Recycle
- (b) Reduce, Refuse, Reuse
- (c) Reduce, Refuse, Recycle
- (d) Reduce, Reuse, Rotate

44. What is the process of turning waste into new materials?

(a) Recycling

(b) Landfilling

(c) Composting

(d) Incinerating

45. A process in which garbage is burned at very high temperatures is :

(a) Landfills

(b) Incineration

(c) Leachate

(d) Refuse dumped fuel

46. Why can't we make a compost out of plastic?

(a) Because plastic is biodegradable

(b) Because it bad for the soil.

(c) Because it catches fire.

(d) Because plastic is non-biodegradable.

47. What kind of wastes are filled in compost pit?

(a) Biodegradable

(b) Non-biodegradable

(c) Both of these

(d) None of these

48. Large open areas used for solid waste disposal.

(a) Incinerators

(b) Playgrounds

(c) Open dumps.

(d) Sewerage

49. The biomedical waste management and handling rules came into force on .....

(a) 1998

(b) 1996

(c) 1999

(d) 1995

50. .... is the separation of biodegradable waste from non-biodegradable waste for proper disposal and recycling.

(a) Separation

(b) Segregation

(c) Removal

(d) Compositing