ABHINAV ACADEMY

UDUPI

CET25B8 MICROBES IN HUMAN WELFARE

Class 12 - Biology

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 75**

1. BOD of waste water is estimated by measuring the amount of: **[1]**

   a) Biodegradable organic matter
   b) Oxygen consumption
   c) Total organic matter
   d) Oxygen evolution

2. Baculoviruses are pathogens that: **[1]**

   a) Attacks birds and snail
   b) Attack insects and other arthropods
   c) Promote insects and arthropods
   d) Kills useful insects in the field

3. Bacillus thuringiensis is used as: **[1]**

   a) Biopesticide
   b) Biofertilizer
   c) Biocontroller
   d) Bioweapon

4. Methanogens do not produce: **[1]**

   a) Methane
   b) Hydrogen sulfide
   c) Oxygen
   d) Carbon dioxide

5. VAM contains: **[1]**

   a) Symbiotic bacteria
   b) Symbiotic fungi
   c) Saprophytic bacteria
   d) Saprophytic fungi

6. A nitrogen-fixing microbe associated with Azolla in rice fields is: **[1]**

   a) Frankia
   b) Spirulina
   c) Anabaena
   d) Tolypothrix

7. The technology of biogas production from cow dung was developed in India largely due to the efforts of: **[1]**

   a) Indian Agricultural Research Institute and Khadi & Village Industries Commission
   b) Gas Authority of India
   c) Oil and Natural Gas Commission
   d) Indian Oil Corporation

8. Activated sludge should have the ability to settle quickly so that it can: **[1]**

   a) Be rapidly pumped back from the sedimentation tank to the aeration tank.
   b) Be discarded and anaerobically digested.
   c) Absorb colloidal organic matter.
   d) Absorb pathogenic bacteria present in waste water while sinking to the bottom of the settling tank.

9. The chemical substances produced by some microbes and can kill or retard the growth of disease-causing microbes are called _____. **[1]**

a) Antigens
b) Antibiotics
c) Antibodies
d) Antivirus

10. Which one of the following is not a nitrogen-fixing organism? **[1]**

a) Azotobacter
b) Pseudomonas
c) Nostoc
d) Anabaena

11. One of the useful activities of several bacteria is: **[1]**

a) Biogeochemical cycles
b) Nitrification
c) Nitrogen fixation
d) Sulphurification

12. Ethyl alcohol is commercially manufactured from: **[1]**

a) Sugarcane
b) Maize
c) Bajra
d) Grapes

13. Which one of the following is not a biofertilizer? **[1]**

a) Nostoc
b) Rhizobium
c) Agrobacterium
d) Mycorrhiza

14. Fleming, Chain and Florey were awarded the Nobel Prize in 1945 for discovery of: **[1]**

a) Antacid
b) Antibodies
c) Insulin
d) Antibiotic

15. Bt-cotton is resistant against: **[1]**

a) Herbicide
b) Salt
c) Drought
d) Insect

16. The microbes commonly used in kitchens are: **[1]**

a) Lactobacillus and Yeast
b) Rhizopus and Lactobacillus
c) Penicillium and Yeast
d) Microspora and E. coli

17. Rhizobium phaseoli fixes atmospheric N_2 symbiotically in: **[1]**

a) Bean
b) Jowar
c) Maize
d) Pea

18. The term antibiotic was coined by: **[1]**

a) Howard Florey
b) John Tyndall
c) Gerhard Domagk
d) Selman Waksman

19. Brewer's yeast is used in the production of industrial product: **[1]**

a) Bread
b) Penicillin
c) Ethanol
d) Acetic acid

20. Bacteria which converts milk into curd is: **[1]**

a) Closteridium
b) Streptococcus
c) Spirillium
d) Lactobacillus

21. Which one converts nitrites to nitrates? **[1]**

a) Rhizobium
b) Nitrosomonas
c) Nitrobacter
d) Azotobacter

22. A free living anaerobic nitrogen fixing bacterium is: **[1]**

a) Streptococcus
b) Clostridium
c) Azotobacter
d) Rhizobium

23. Nitrogen fixation is: **[1]**

a) $N_2 \rightarrow NO_3$
b) Both $N_2 \rightarrow NH_3$ and $N_2 \rightarrow NO_3$
c) $N_2 \rightarrow$ Amino acid
d) $N_2 \rightarrow NH_3$

24. Cyanobacteria serves as important biofertilizers in the fields of: **[1]**

a) Wheat
b) Rice
c) Maize
d) Sugarcane

25. Mycorrhiza does not help the host plant in: **[1]**

a) Enhancing its phosphorus uptake capacity
b) Enhancing its resistance to root pathogens
c) Increasing its tolerance to drought
d) Increasing its resistance to insects

26. Which of the following is included in bioinsecticide? **[1]**

a) Viruses and bacteria
b) Viruses, bacteria, fungi, protozoans and mites
c) Viruses, bacteria, fungi and protozoa
d) Viruses, bacteria and fungi

27. The primary treatment of waste water involves the removal of: **[1]**

a) Harmful bacteria
b) Toxic substances
c) Dissolved impurities
d) Stable particles

28. Cheese maturation is connected with: **[1]**

a) Penicillium camemberti
b) A. niger
c) Aspergillus oryzae
d) P. chrysogenum

29. Which organism serves as a biofertilizer? **[1]**

a) Azolla
b) Cassia
c) Spirogyra
d) E.coli

30. During anaerobic digestion of organic waste, such as in producing biogas, which one of the following is left undergraded? **[1]**

a) Lipids
b) Lignin
c) Cellulose
d) Hemi-cellulose

31. Purified antibiotic penicillin of Penicillium notatum was obtained by: **[1]**

a) Howard Florey
b) Robert Hooke
c) A.Fleming
d) Carolus Linnaeus

32. Which of the following will begin fixing nitrogen only after they stop reproducing? **[1]**

a) Penicillium
b) Streptococcus
c) Rhizobium
d) Aspergillus

33. Single cell protein refers to: **[1]**

a) A specific protein extracted from a single cell.
b) Proteins extracted from a single cell.
c) Sources of mixed proteins extracted from pure or mixed culture of cells.
d) A specific protein extracted from pure culture of single type of cells.

34. The bacteria which grows anaerobically on cellulose material and produces a large amount of methane along with CO_2 and H_2 are collectively called: **[1]**

a) Methanogens
b) Methane bacteria
c) Anaerobic bacteria
d) Cellulosed bacteria

35. Devine and Collego are: **[1]**

a) Biofungicides
b) Single cell protein
c) Bioinsecticides
d) Bioherbicides

36. Bacterium Propionibacterium shermanii is used in the preparation of edible product: **[1]**

a) Swiss cheese
b) Roquefort cheese
c) Idli
d) Curd

37. Use of biocontrol measures will greatly reduce our dependence on: **[1]**

a) Plants and insects
b) Fertilizers and manure
c) Useful chemicals and pesticides
d) Toxic chemicals and pesticides

38. Which one of the following fixes the atmospheric nitrogen but is not an autotroph? **[1]**

a) Oscillatoria
b) Nostoc
c) Anabaena
d) Rhizobium

39. The organism which helps in the fermentation of Swiss cheese is: **[1]**

a) Lactobacillus
b) Cyclosporin
c) Yeast
d) Penicillin

40. In gobar gas, the maximum amount is that of : **[1]**

a) Methane
b) Propane
c) Carbon dioxide
d) Butane

41. The residue left after methane production from cattle dung is: **[1]**

a) Buried in landfills
b) Used in civil construction
c) Burnt
d) Used as manure

42. Big holes in Swiss cheese are made by a: **[1]**

a) a machine

b) a fungus that releases a lot of gases during its metabolic activities

c) a bacterium producing a large amount of carbon dioxide

d) a bacterium that produces methane gas

43. A major component of gobar gas is : **[1]**

a) Butane

b) Ethane

c) Methane

d) Ammonia

44. Mycorrhizal association occurs in Pinus, Fucus and: **[1]**

a) Azadirachta

b) Utricularia

c) Eucalyptus

d) Legumes

45. An example of symbiotic bacteria is : **[1]**

a) Xanthomonas campestris

b) Rhizobium leguminosarum

c) Agrobacterium tumefaciens

d) Ervinia amylovora

46. Mycorrhizae show: **[1]**

a) Symbiosis

b) Parasitism

c) Commensalism

d) Amensalism

47. The scientific name of Baker's yeast is: **[1]**

a) Lactobacillus

b) Streptococcus

c) Aspergillus niger

d) Saccharomyces

48. Which of the following fixes atmospheric nitrogen? **[1]**

a) Nostoc

b) Methanogens

c) Algae

d) Azolla

49. Methanogens belong to: **[1]**

a) Eubacteria

b) Dinoflagellates

c) Archaebacteria

d) Slime moulds

50. In paddy fields, biological nitrogen fixation is chiefly brought by: **[1]**

a) Rhizobium

b) Mycorrhizae

c) Cyanobacteria

d) Green algae

51. Which among these are produced by distillation of fermented broth? **[1]**

(i) Whisky (ii) Wine (iii) Beer (iv) Rum (v) Brandy

a) (iii) and (v) alone

b) (i) and (ii) alone

c) (i), (iv) and (v) alone

d) (ii) and (iii)

52. Bt-gene occurs in: **[1]**

a) Escherichia coli

b) Rhizobium leguminosarum

c) Bacillus thuringiensis
d) Agrobacterium tumefaciens

53. Which one among the following biofertilizers does **not** fix atmospheric nitrogen? **[1]**

a) Rhizobium
b) Oscillatoria
c) Azospirillum
d) Glomus

54. Which of the following is a free-living nitrogen-fixing bacteria present in the soil? **[1]**

a) Pseudomonas
b) Rhizobium
c) Nitrosomonas
d) Azotobacter

55. Biogas is mainly formed of: **[1]**

a) CH_4
b) CO_2
c) N_2
d) O_2

56. Soil microorganism which converts proteins to ammonia is: **[1]**

a) Nitrosomonas
b) Pseudomonas
c) None of these
d) Bacillus vulgaris

57. Pasteurization takes place at: **[1]**

a) 62^o C for 30 minutes
b) 30^o C for 20 minutes
c) 40^o C for 30 minutes
d) 30^o C for 60 minutes

58. The bioactive molecule used as an immunosuppressive agent during organ transplant is: **[1]**

a) Tetracyclin
b) Streptomycin
c) Statin
d) Cyclosporin-A

59. Lactobacillus mediated conversion of milk to curd results because of: **[1]**

a) Coagulation and partial digestion of milk proteins.
b) Coagulation and partial digestion of milk fats.
c) Coagulation of milk fats and complete digestion of milk proteins.
d) Coagulation of milk proteins and complete digestion of milk fats.

60. In Nostoc, enzyme nitrogenase occurs in: **[1]**

a) Only in hormogones
b) Both Vegetative cells and Heterocysts
c) Heterocysts
d) Vegetative cells

61. First hormone produced artificially by culturing bacteria is : **[1]**

a) Adrenaline
b) Testosterone
c) Thyroxine
d) Insulin

62. Crop rotation is used by farmers to increase: **[1]**

a) Soil fertility
b) Nitrogenous content of soil
c) Breeding
d) Organic content of soil

63. Microbe responsible for converting milk into curd is: **[1]**

a) Aspergillus
b) Lactobacillus
c) Penicillium
d) Saccharomyces

64. What would happen if oxygen availability to activated sludge flocs is reduced? **[1]**

a) The center of flocs will become anoxic, which would cause death of bacteria and eventually breakage of flocs
b) Protozoa would grow in large numbers
c) It will slow down the rate of degradation of organic matter
d) Flocs would increase in size as anaerobic bacteria would grow around flocs

65. An anaerobic bacterium capable of atmospheric N_2-fixation is: **[1]**

a) Clostridium
b) Chlorobium
c) Rhodospirillum
d) Azotobacter

66. Which one is used as biofertilizer? **[1]**

a) Nostoc
b) Rhizopus
c) Funaria
d) Volvox

67. Cry-I endotoxins obtained from Bacillus thuringiensis are effective against: **[1]**

a) Mosquitoes
b) Nematodes
c) Bollworms
d) Flies

68. The free-living fungus Trichoderma can be used for: **[1]**

a) Killing insects
b) Biological control of plant diseases
c) Producing antibiotics
d) Controlling butterfly caterpillars

69. Rhizobium is an example of: **[1]**

a) Biofertilizer
b) Biopesticide
c) Symbiotic fungus
d) Biowar agent

70. Azolla is used as a biofertilizers because it: **[1]**

a) has association of nitrogen-fixing Rhizobium
b) has association of mycorrhiza
c) multiplies very fast to produce massive
d) has the association of nitrogen-fixing Cyanobacteria

71. Which one is a nitrogen fixer? **[1]**

a) Anabaena
b) Hydrodictyon
c) Ulva
d) Ulothrix

72. In which of the following microbes are not used extensively? **[1]**

A. Converting milk into curd.
B. Making cheese of different flavors and tastes.
C. Production of viral drugs.
D. Production of antibiotics.

E. As bio-fertilizers.

F. Production of inorganic fertilizers.

a) Only C and F

b) Only B and C

c) Only C and D

d) Only A and B

73. Lichen is the association of: **[1]**

a) Alga and fungus

b) Alga and alga

c) Alga and roots of higher plants

d) Fungus and fungus

74. Which one of the following is not used in organic farming? **[1]**

a) Snail

b) Oscillatoria

c) Earthworm

d) Glomus

75. Wastewater treatment generates a large quantity of sludge, which can be treated by: **[1]**

a) Anaerobic digesters

b) Chemicals

c) Oxidation pond

d) Floc