

SECTION : C PREVIOUS EXAMINATION QUESTIONS

- Trichoderma harzianum* is useful for
 - Gene transfer in higher plants
 - Biological control of soil borne pathogens / biopesticide
 - Bioremediation of contaminated soils
 - Reclamation of waste land
- Which is linked to discovery of Bordeaux mixture as fungicide?
 - Downy mildew of grapes
 - Loose smut of wheat
 - Black rust of wheat
 - Bacterial leaf blight of rice
- Modern detergents contain enzyme preparations
 - Thermoacidophiles
 - thermophiles
 - acidophiles
 - alkaliphiles
- Which one is being tried in India as biofuel substitute for fossil fuels?
 - Jatropha*
 - Musa*
 - Aegilops*
 - Azadirachta*
- Which one is wrongly matched?
 - Detergents – lipase
 - Alcohol – nitrogenase
 - Textile – amylase
 - Fruit juice – pectinase
- Which is not used as a biopesticide?
 - Xanthomonas campestris*
 - Bacillus thuringiensis*
 - Trichoderma harzianum*
 - Nucleopolyhedrovirus

7. Which should be used for production of bioethanol
(A) *Brassica* (B) *zea mays*
(C) *jatropha* (D) *pongamia*
8. An example of endomycorrhiza is
(A) *Glomus* (B) *agaricus*
(C) *nostoc* (D) *rhizobium*
9. Which of the following is not used in organic farming
(A) Earth worm (B) *oscillatoria*
(C) snail (D) *glomus*
10. A common biocontrol agent for plant diseases is
(A) *Bacillus thuringiensis* (B) *glomus*
(C) *trichoderma* (D) *baculovirus*
11. "gray biotechnology" is related to.
(A) industrial process (B) medical process
(C) agricultural process (D) aquatic process
12. Select the correct statement from the following
(A) *Methanobacterium* is an aerobic bacterium found in rumen of cattle
(B) Biogas commonly called gobar gas is pure methane.
(C) Activated sludge sediment in settlement tanks of sewage treatment plant is rich source of aerobic bacteria.
(D) Biogas is produced by the activity of aerobic bacteria of animal waste.
13. Biofertilizers include
(A) Cow dung manure and farmyard waste
(B) A quick growing crop ploughed back
(C) BGA / *Anabaena* and *Azolla*
(D) All the above

14. Which of the following is mainly produced by the activity of aerobic bacteria of sewage?
(A) laughing gas (B) marsh gas
(C) mustard gas (D) propane
15. Secondary sewage treatment is mainly a
(A) Chemical process (B) mechanical process
(C) biological process (D) physical process
16. Continuous addition of sugar in 'fed batch' fermentation is done to
(A) Purify enzymes (B) degrade sewage
(C) produce methane (D) obtain antibiotics
17. Which one is wrongly matched?
(A) Yeast – stains
(B) *Acetobacter aceti* – citric acid
(C) *Aspergillus niger* – citric acid
(D) *Clostridium butylicum* – lactic acid
18. Which is fungicide?
(A) DDT (B) mordeaux mixture
(C) 2,4- D (D) DCMU
19. Which one is not a biofertilizer?
(A) *Naztac* (B) *mycorrhiza*
(C) *agrobacterium* (D) *rhizobium*
20. Which is incorrect about fermentation?
(A) Toddy is prepared by fermenting palm sap
(B) *Propionibacterium* is used in fermentation of cheese
(C) Puffed up appearance of dough is due to production of CO_2
(D) Fermentation in muscles produces alcohol
21. Which one is correct?
(A) Activated sludge is digested by anerobic bacterial to produce marsh gas
(B) *Aspergillu niger* produces cyclosporine – A

(C) BOD is amount of oxygen produced by bacteria during decomposition

22. Which one is an example of biocontrol of pests and pathogens using microbes?

(A) *Trichoderma* against certain plant pathogens.

(B) Bt cotton to increase cotton yield

(C) Lady bird beetle against aphids mustard

(D) Nucleopolyhedrovirus against white rust of brassica

23. In gobar gas, the maximum amount is that of

(A) Propane

(B) methane

(C) butane

(D) carbon dioxide

24. Domestic sewage of large cities

(A) Has very high amount of suspended solid and dissolved salts

(B) When treated in sewage treatment plant does not require aeration

(C) Has high BOD as it contains both aerobic and anaerobic bacteria

(D) Is processed by aerobic and then anaerobic bacteria in secondary treatment in sewage treatment plant

25. Lactic acid bacteria grow in milk and convert it into curd increasing its nutritional value by increasing

(A) Vitamin A

(B) vitamin B_6

(C) vitamin B_{12}

(D) both A and C

26. Read statement (a-d). How many of them are wrong?

a. Colostrum is recommended for newborn as it is rich in antigens

b. Chikungunya is caused by Gram (---) bacterium

c. Tissue culture is useful in obtaining virus free plants

d. Beer is obtained by distillation of fermented grape juice

(A) Four

(B) three

(C) two

(D) one

27. A good producer of citric acid is

(A) *Clostridium*

(B) *Saccharomyces*

(C) *Aspergillus*

(D) *Pseudomonas*

28. During sewage treatment, biogases are produced which include

(A) Hydrogen sulphide, methane, sulphur dioxide

(B) Hydrogen sulphide, nitrogen, methane

(C) Methane, hydrogen sulphide, carbon dioxide

(D) Methane, oxygen, hydrogen sulphide

29. What gases are produced in anaerobic sludge digesters

(A) Hydrogen sulphide and CO_2

(B) Methane and CO_2 only

(C) Methane, hydrogen sulphate and CO_2

(D) Methane, hydrogen sulphide and O_2

30. Which of the antibiotic is not produced by one of the monera (*Streptomyces*)?

(A) Erythromycin

(B) Penicillin

(C) Streptomycin

(D) Tetramycin

31. Match the following list of microbes and their importance

(a) *Saccharomyces*

(i) production of immunosuppressive agents

Cervisiae

(b) *Monascus purpureus*

(ii) ripening of Swiss

cheese

(c) *Trichoderma polysporum*

(iii) commercial production of ethanol

(d) *Propionibacterium sharmanii*

(iv) production of blood-cholesterol lowering agents

(A) (a)–(iv), (b)–(iii), (c)–(ii), (d)–(i)

(B) (a)–(iv), (b)–(ii), (c)–(i), (d)–(iii)

(C) (a) –(iii) , (b) –(i) , (c) –(iv) ,(d) –(ii)

(D) (a) –(iii) , (b) –(iv) , (c) –(i) ,(d) –(ii)

32. Microbes which act as biofertilizers are

(A) Free living nitrogen fixing bacteria ---*Rhizobium*

(B) Free living nitrogen fixing bacteria ---*Azospirillum*

(C) Mycorrhiza formed by the algae of the genus *Glomus*

(D) Root nodule bacteria ---*Azotobacter* fix atmospheric nitrogen in paddy fields

33. The bacterium that helps in breakdown of cellulose in rumen of cattle is

(A) *Clostridium*

(B) *Lactobacillus*

(C) *Methanobacterium*

(D) *Escherichia*

34. Cyclosporine A, used as immunosuppressive agent in organ transplants, is produced by

(A) *Trichoderma*

(B) *Monascus*

(B) *Streptococcus*

(D) *Staphylococcus*

35. Yoghurt is produced with the help of

(A) *Lactobacillus bulgaricus* and *Lactobacillus thermophilus*

(B) *Lactobacillus thermophilus* and *Streptococcus thermophilus*

(C) *Lactobacillus bulgaricus* and *Streptococcus thermophilus*

(D) *Lactobacillus kefir* and *Streptococcus thermophilus*

36. The fungus used for commercial production of citric acid is

(A) *Clostridium*

(B) *Saccharomyces*

(C) *Aspergillus*

(D) *Penicillium*

37. Large holes in Swiss cheese are formed due to production of a large amount of CO_2 by

(A) *Propionibacterium*

(B) *Mycobacterium*

(C) *Saccharomyces*

(D) *Penicillium*

38. Which of the following is wrongly matched in the given table?

Microbe	product	application
(A) <i>Streptococcus</i>	streptokinase	removal of Clot from blood vessel
(B) <i>Clostridium butylicum</i>	lipase	removal of oil stains
(C) <i>Trichoderma polysporum</i>	cyclosporine A	immunosuppressive drug
(D) <i>Monascus purpureus</i>	stains	lowering of blood cholesterol

SECTION : D CHAPTER – END TEST

- Antibiotic cephalosporin is got from
 - Bacterium
 - alga
 - fungus
 - mycoplasma
- Who is credited with identifying petro – crops?
 - Swaminathan
 - calvin
 - krebs
 - borlang
- Government of india is putting more stress on planting quick growing trees which yield better fodder and fuel. It is under
 - Afforestation
 - forest conservation
 - social forestry
 - all the above
- Cowdung is appropriately used as
 - Manure
 - fuel
 - medicine
 - building material
- Who showed that certain plants can function as a source of hydrocarbons?
 - Melvin calvin
 - hans krebs
 - Robert brown
 - john priestley

6. bioenergy is obtained from

(A) petroleum

(B) natural gas

(C) biomass

(D) synthetic fuel

7. which one is a neem product used as insect repellent?

(A) rotenone

(B) azadirachtin

(C) parathion

(D) endrin

8. which of the following is used as green manure?

(A) *crotalaria juncea*

(B) *azolla*

(C) *hevea brazillensis*

(D) *azadirachra juncea*

9. the main energy containing components of biogas is

(A) methane

(B) hydrogen

(C) hydrogen sulphide

(D) carbon dioxide

10. which one is a petroplant?

(A) *cicer arietinum*

(B) *beta vulgaris*

(C) *euphorbia lathyris*

(D) *soalnum tuberosum*

11. highest number of antibiotic are produced by

(A) *bacillus*

(B) *pencillium*

(C) *streptomyces*

(D) *cephalosporium*

12. mycorrhiza works as a

(A) Root

(B) Root hair in unfavourable condition

(C) Mechanical support

(D) Organ of respiration

13. A phosphate solubilising symbiotic association is called
 (A) lichen (B) mycorrhiza
 (C) helotism (D) mutualism
14. Antifungal antibiotic is
 (A) choramphenicol (B) streptomycin
 (C) griseofluvin (D) all of the above
15. which one is not used in the production of yoghurt?
 (A) *streptococcus lactis*
 (B) *streptococcus thermophilus*
 (C) *lactobacillus bulgaricus*
 (D) *acetobacter aceti*
16. Renin employed in cheese industry is
 (A) inhibitor (B) alkaloid
 (C) enzyme (D) inducer
17. streptomycin is useful for treatment of pathogens
 (A) gram (+) (B) gram (-)
 (C) both A and B (D) gram neutral
18. fermentation of sugar to yield alcohol is carried out by
 (A) microorganisms
 (B) zymase
 (C) raised temperature
 (D) decomposition of sugar
19. match the following
- | | |
|------------------|-------------------------|
| a. citric acid | i. streptococcus |
| b. streptokinase | ii. Aspergillus niger |
| c. cycloporin -A | iii. Monascus purpureus |
| d. stains | iv. Trichoderma |
| polysporium | |
- (A) a-ii , b - I, c - iv, d-iii
 (B) a-iv , b -ii , c - iii , d - i
 (C) a-ii, b -I , c- iii, d - iv
 (D) a - I, b - ii ,c - iii, d - iv

20. the earliest pesticide was
(A) margosa (B) pyrethrum
© nicotine (D) DDT
21. A petroleum plant is
(A) sugarcane (B) maize
(C) potato (D) *euphorbia*
22. germinating Barley seeds are used in preparation of
(A) lactic acid (B) wine
(C) cheese (D) beet
23. distillation of whisky is necessary as it
(A) increases duality
(B) prevents further fermentation and spoiling of whisky
(C) decreases toxicity
(D) has no action on nature of wine
24. distribution of clean and quality milk throughout the world has been made possible through work of
(A) leeuwenhock (B) Koch
(C) Pasteur (D) blackman
25. pyrethrin is extracted from]
(A) *Azadirachta indica*
(B) *Helianthus amarus*
(C) *Poa indica*
(D) *Chrysanthemum cinerifolium*
26. organic manure formed by earthworm is
(A) worm casting (B) urea
(C) Pasteur (D) vermiculture
27. which organic compound is produced by fermentation and is used to partially replace fossil fuel?
(A) butanol (B) methanol
(C) ethanol (D) propanol

28. A petrocrop is

- (A) Sugarcane (B) maize
(C) *euphorbia* (D) potato/

29. VAM represents

- (A) saprophytic fungi (B) symbiotic fungi
(C) saprophytic bacteria (D) symbiotic bacteria

30. During the formation, bread becomes porous due to released CO_2 by

- (A) protozoans (B) bacteria
(C) yeast (D) viruses

31. Cheese and yoghurt are products of

- (A) pasteurization (B) fermentation
(C) dehydration (D) distillation

32. The product of which has been commercialised for lowering blood cholesterol

- (A) *Trichoderma polysporum*
(B) *Monascus purpureus*
(C) *Saccharomyces cerevisiae*
(D) *Aspergillus niger*

33. Chemical substance produced by one microorganism to inhibit the growth of another microorganism is called

- (A) antibiotic (B) antigens
(C) antibody (D) antitoxin

34. The technology of biogas production was developed in India through the efforts of

- (A) KVIC (B) IARI
(C) Both A and B (D) WHO

35. Supply of oxygen to the biogas plant will have
(A) positive effect (B) negative effects
(C) no effect (D) none of these
36. they help in increasing soil fertility
(A) *Pseudomonas and cereals*
(B) *Bacillus and penicillium*
(C) *Salvinia and marsilea*
(D) *Nostoc and legumes*
37. biogas mainly consists of
(A) ethane (B) CO_2
(C) H_2 (D) methane
38. bacillus thuringiensis is used to control
(A) insect pests (B) nematodes
(C) bacterial pathogens (D) fungal pathogens
39. Penicillin was discovered by
(A) Alexander Fleming (B) Waksman
(C) chain and florey (D) both A and B
40. Yeast is used for commercial production of
(A) Methanol (B) ethanol
(C) butanol (D) citric acid
41. *Aspergillus niger* is used for commercial and industry production of
(A) Acetic acid (B) butyric acid
(C) citric acid (D) lactic acid
42. Fleming, chain and florey were awarded nobel prizes 1945 for the
(A) HTV (B) CT scan
(C) *penicillium* (D) *staphylococcus*

43. Which among these are produced by distillation of fermented broth?

- (A) Whisky (B) wine
 (C) beer (D) rum
 (E) brandy
 (a) b and c (b) a,e and b
 © a, b and c (d) a, e and d

44. Baker's yeast is

- (A) *S. cerevisiae*
 (B) *S. ludwingii*
 (C) *S. octosporus*
 (D) *Schizosaccharomyces*

45. *Streptomyces griseus* produces antibiotic

- (A) Terramycin (B) chloramphenicol
 (C) ceomycin (D) streptomycin

46. Members of which of the following fungal genus mainly participate in the mycorrhiz formation

- (A) *Frankia* (B) *mucor*
 (C) *glomus* (D) yeast

47. Match the following

a. pectinases and proteases

i. blood cholesterol lowering agents

b. streptokinase

ii. Immunosuppressive agents

c. cyclosporine -A

iii. Clot-busters

d. stin

iv. Clarifying agents

- (A) a- iv, b - iii, c - I, d -ii
 (B) a- iv, b - iii, c - ii, d -i
 (C) a- i, b - ii, c - iii, d -iv
 (D) a- iii, b - v, c - ii, d -i

48. Ganga action plan and Yamuna action plan has initiated by
- (A) Indian Agricultural Research Institute (IARI)
 - (B) Khadi and Village Industries Commission (KVIC)
 - (C) The Ministry of Environment and Forests (MOEF)
 - (D) Both A and B
49. Methanogenic bacteria are not found in the
- (A) Bottom of water – logged paddy fields
 - (B) Activated sludge
 - (C) Gobar gas plant
 - (D) Rumen of cattle
50. Bottled juices are clarified by the use of
- (A) Pectinases
 - (B) peptidases
 - (C) lipases
 - (D) both A and B