Exercise-1

✍ **Marked Questions are for Revision Questions.**

ONLY ONE OPTION CORRECT TYPE

1. Partially degraded concentrate of milk fat and casein is called
(1) Sour cream (2) Yoghurt (3) Cheese (4) Bread

2. Indian curd is prepared by Inoculating cream and skimmed milk with
(1) *Lactobacillus acidophilus* (2) *Leuconostoc cremoris*
(3) *Lactobacillus bulgaricus* (4) *Streptococcus lactis*

3. The nutrient medium for beer is
(1) Barley malt (2) Fermented rice (3) Cashew-apple (4) Potato

4. Mark the incorrect option (w.r.t. distilled alcoholic beverages)
(1) Wine (2) Brandy (3) Run (4) Gin

5. Which of the following product is not obtained from fermented soya sauce?
(1) Tempeh (2) Tofu (3) Sufu (4) Dosa

6. Select the odd one out w.r.t. source of antibiotics
(1) Bacteria (2) Lichen (3) Fungi (4) Seeded plants

7. Statins are competitive inhibitor of
(1) Streptokinase (2) HMG CoA reductase
(3) Pectinase (4) Cellulase

8. Organic acid used in pharmaceuticals, colouring agents and plastic industries is
(1) Acetic acid (2) Citric acid (3) Lactic acid (4) Gluconic acid

9. In which of the following step large and small particles are removed from sewage through sequential filtration and sedimentation?
(1) Primary treatment (2) Secondary treatment
(3) Biological treatment (4) Tertiary treatment

10. Technology of biogas production was developed in India mainly due to the efforts of
(1) IARI (2) KVIC (3) Both (1) & (2) (4) ICAR

11. Which of the following microorganism is involved in last step of biogas production?
(1) *Methanobacterium* (2) *Bacillus* (3) *Cellulomonas* (4) *Ruminococcus*

12. Mark the correct option (w.r.t. composition of biogas)
(1) 50 - 70% H_2 (2) 30 - 40% CO_2 (3) 95% CH_4 (4) 10% CO

13. Biogas production is a
(1) Three step microbial process (2) Three step physical process
(3) Four step aerobic process (4) Four step anaerobic process

14. Which of the following biopesticide does not allow the weeds to grow nearby?
(1) Smoother crop (2) Baculovirus (3) Rotenone (4) Catch I trap crop

15. Which of the following microbe is most active nitrogen fixer in rice field in India?
(1) *Rhizobium* (2) *Rhodospirillum* (3) *Frankia* (4) *Aulosira*

16. Plants having mycorrhizal association show
(1) Resistance to root-borne pathogens (2) Tolerance to salinity and drought
(3) Nitrogen fixation (4) More than one option is correct

17. Select the odd one out w.r.t. biofertilisers
(1) Bacteria (2) Fungi (3) Cyanobacteria (4) Viruses

18. First mycoherbicide of the world was obtained from
(1) *Trichoderma harzianum* (2) *Phytophthora palmivora*
(3) *Cactoblastis cactorum* (4) *Pythium debaryanum*

19. Concept of sustainable agriculture lies in
(1) Minimizing bio pesticides
(2) A greater dependence on new crops
(3) Least use of bio fertilizers
(4) Using spores of *Bacillus thuringlensis* for pest control

20. Find the odd one out (w.r.t Bioherbicide)
(1) *Cactoblastis cactorum* (2) *Helianthus annus*
(3) *Phytophthora palmivora* (4) Cochliomyia

21. Sustainable agriculture does not include
(1) Eco-friendly cropping (2) Green revolution
(3) IPM (4) Biological control

22. Which of the following is included in biopesticide?
(1) Viruses and bacteria only (2) Viruses, bacteria and fungi only
(3) Viruses, bacteria, fungi, protozoa and mites (4) Viruses, bacteria, fungi and protozoa only

23. Biofertilisers include
(1) Blue-green algae, *Rhizobium,* other nitrogen fixing bacteria and mycorrhiza
(2) Blue-green algae, *Trichoderma, Rhizobium* and other nitrogen-fixing bacteria
(3) *Rhizobium,* other nitrogen-lixing bacteria, NPV and mycorrhiza
(4) Blue green algae, *Rhizobium,* Bt and mycorrhiza

24. 'Devine' and 'Collego' are two agricultural substances that are used as
(1) Biofertilizers (2) Natural insecticides (3) Insect hormones (4) Bioherbicides

25. Ganga action Plan for controlling pollution' in Ganges started in
(1) 1985 (2) 1981 (3) 1987 (4) 1989

26. Which of the following statement is incorrect w.r.t. pectinases?
(1) They are used in clearing of fruit juices
(2) They are used in chill proffing beer and whisky
(3) They are obtained from *Byssochalmycs fulvo*
(4) They are used in retting of fibres

27. Presence of E.coli in water indicates
(1) Water is clear (2) Water is fully poluted
(3) Inorganic pollution (4) Faecal pollution

28. In which stage of sewage treatment desalination and chlorination of water is done?
(1) Primary treatment (2) Secondary treatment
(3) Tertiary treatment (4) Both (1) & (2)

29. Eutrophication in water bodies leads to the
(1) High Dissolved oxygen (2) Low BOD
(3) Low Dissolved oxygen (4) Optimum dissolved oxygen

30. Which of the following is not used in treatment of polluted water?
(1) Activated carbon (2) Tricking filter method
(3) Cyclone collector (4) Activated sludge method

31. The greater BOD of waste water relates
(1) Increases oxygen content of water (2) Decreases oxygen content of water
(3) The decrease of temperature of water (4) All of these

32. Microbes cannot be cultured in cell free extracts are
(1) Bacteria (2) Fungi (3) Viruses (4) Algae

33. Most of the antibiotics are obtained from
(1) Actinomycetes (2) Eubacteria (3) Ray fungi (4) Both (1) & (3)

34. LAB stands for
(1) Lactic acid bacteria (2) Lactobacillus acidophilus bacteria
(3) Lactose acetaldhyde bacteria (4) Laboratory

35. Which of the following is responsible for yoghurt formation?
a. *Streptococcus thermophilus* b. *Lactobacillus acidophilus*
c. *Lactobacillus bulgaricus* d. *Streptococus cremoris*
(1) a, b, c (2) a, d, c (3) a, c (4) a, d

36. The fermented food of soyabean is
(1) Tempeh (2) Tofu (3) Fafu (4) All of these

37. Which of the following is not a symbiotic nitrogen fixing bacteria?
(1) *Clostridium* (2) *Rhizobium leguminosarum*
(3) *Frankia* (4) *Mycobacterium*

38. Cry protein is produced by
(1) *Phytophthora palmivora* (2) *Bacillus thuringiensis*
(3) *Nostoc* (4) Spirulina

39. Biogas contains
(1) 30%-40% Methane (2) 50%-70% CO_2
(3) 50%-70% Methane (4) 20% Methane

40. Citric acid is obtained by all, except
(1) *Aspergillus niger* (2) *Mucor* (3) *Yeast* (4) *Mortierella*

41. Antibiotic obtained from lichens is
(1) Neomycin (2) Usnic acid (3) Polymixin Viridin (4) Viridin

42. Super bug is
(1) *Pseudomonas pudita* (2) *bacillus anthrax*
(3) *Streptomyces erythreus* (4) *Mucor*

43. Which bacterium is used in bioremidiation process?
(1) *Rhizobium sp.* (2) *Pseudomonas pudita*
(3) *Bacillus licheniformis* (4) *Streptococci*

44. CDRI is located in
(1) Lucknow (2) Kanpur (3) Delhi (4) Karnal

45. Viridin antibiotic is effective against
(1) Bacteria (2) Fungi
(3) Gram positive bacteria (4) Gram negative bacteria

46. Which fungal extract was extensively used in teating wounded American soldiers in world war-II?
(1) Streptomycin (2) Penicillin (3) Aflatoxin (4) Gluconic acid

47. Dosa and Idli are fermented preparation of rice and black Gram. The fermentation is done with
(1) *Leuconostoc* (2) *Streptococcus*
(3) Saccharomyces (4) more than one option is correct

48. Wine yeast is
(1) *Saccharomyces ellipsoidens* (2) *S. sake*
(3) *S. pireformis* (4) *S. cerevisiae*

49. Amylases are employed for all, except
(1) Softening of bread (2) Clearing of turgidity in juices
(3) Preparation of chese (4) Desizing of textile fibres

50. First step in biogas production is carried out with the help of
(1) Obligate aerobes (2) Decomposers (3) Methanogens (4) Detrivores

51. Rotenone, a natural insecticide, is obtained from
(1) *Azadirachta indica* (2) *Derris sp.*
(3) *Bacillus thuringiensis* (4) *Phytophthora palmivora*

52. Fermented beverage with maximum alcohol content is
(1) Beer (2) Brandy (3) Whisky (4) Gin

53. Find the correct match

	Column I		**Column II**
a.	*Streptomyces venezuelae*	(i)	Neomycin
b.	*Streptomyces rimosus*	(ii)	Gentamycin
c.	*Micromonosperma purpurea*	(iii)	Chloramphenicol / Chloromycetin
d.	*Streptomyces fradiae*	(iv)	Oxytetracycline / Terramycin

(1) a (iv), b (iii), c (ii), d (i) (2) a (iv), b (ii), c (iii), d (i)
(3) a (iii), b (iv), c (i), d (ii) (4) a (iii), b (iv), c (ii), d (i)

54. NPV based insecticide has been found to eliminate bollworms which causes extensive damage to
(1) Coconut palms (2) cotton (3) Wheat (4) Mango

55. Which of the following is incorrect matched?
(1) VAM - Phosphate absorption
(2) Soyabean - Smoother crop
(3) Ozone gas - Primary treatment
(4) Ecdysone - Juvenile hormone

56. Which of the following is a correct matching of a microbe and Its Industrial product, while the remaining three are wrong?
(1) *mortierella renispora* - Pectinase
(2) *Aspergillus niger* - Streptokinase
(3) *Streptococci* - Tissue plasminogen activator
(4) *Lactobacillus bulgaricus* - Gluconic acid

57. Consider the following four statements (A _ D) related to organic farming and select the correct option stating which ones are true (T) and which ones are false (F). The statements'
(A) Produces food crops rich in lipids, vitamins and iron
(B) Uses biofertilisers which increases soil fertility
(C) There is more use of chemical fertilisers and pesticides
(D) Raising unpolluted crops through the use of bacteria, fungi and cyanobacteria

	(A)	(B)	(C)	(D)
(1)	T	T	F	F
(2)	F	T	F	T
(3)	T	F	T	F
(4)	T	F	F	F

58. Read the following four statements (A - D) about certain mistakes in two of them:
(A) Dough, which is used for making foods such as dosa and idli is fermented by fungi and algae
(B) Toddy, a traditional drink of southern India is made by fermenting sap from palms.
(C) Large holes in 'Swiss cheese' are due to production of large amount of methane by *Propionibacterium sharmanii*
(D) In our stomach, lactic acid bacteria play very beneficial role in checking disease - causing microbes
Which are the two statements having mistakes?
(1) Statements (A) and (C) (2) Statements (A) and (B)
(3) Statements (B) and (C) (4) Statements (C) and (D)

59. Read the following statement having two blanks (A) and (B). A drug named as ____ (A) ____ produced by ____ (B) ____ has been commercialised as blood-cholesterol lowering agents, which acts by competitively inhibiting the enzyme responsible for synthesis of cholesterol.

	Blank A	**Blank B**
(1)	Cyclosporin A	*Tticncaerms polysporum*
(2)	Statins	*Monascus purpureus*
(3)	Penicillin	*Penicillium notatum*
(4)	Streptokinase	*Streptococcus*

60. Secondary treatment of sewage
(1) Removes grit and large of organic matter
(2) Involves shredding, churning, filtration and sedimentation
(3) Does not require aeration
(4) Involves microbial digestion of organic matter

61. Agricultural chemicals include
(1) Pesticides (2) Fertilizers (3) Growth regulaors (4) All of these

62. Biofertilizers include
(1) Nitrogen fixing bacteria (2) Nitrogen fixing cyanobacteria
(3) Both bacteria and cyanobacteria (4) Bacteria, cyanobacteria and mycorrhizal fungi

63. Most famous nitrogen fixing bacterium/biofertilizer is
(1) *Nitrobacter* (2) *Nitrosomonas* (3) *Nitrococcus* (4) *Rhizobium*

64. BT cotton is resistant to
(1) Insect (2) Herbicides (3) Salt (4) Drough

65. Which one is green manure/biofertilizer?
(1) *Sesbania* (2) Miaze (3) Rice (4) Oat

66. Enzyme required for nitrogen fixation is
(1) Nitrogenase (2) Nitroreductase (3) Transaminase (4) Transferase

67. Lactic Acid Bacteria (LAB) at suitable temperature converts milk to curd, which improves its nutritional quality by enhancing vitamin
(1) A (2) B (3) C (4) D

68. Curding of milk takes place by
(1) *Streptococcus lactis* (2) *Streptococcus thermophilus*
(2) *Lactobacillus lactis* (4) All of the above

69. Choose incorrect statement
(1) Penicillin antibiotic extensively used to treat American soldiers wounded in World War II.
(2) Lipase are used in detergent formation and are helpful in removing oily stains from the laundry.
(3) Remaining major part of the sluge is pumped into larger tanks called anaerobic sludge digestors.
(4) Methanogen bacteria are commonly found in the aerobic slugde during sewage treatment.

70. Choose incorrect statement
(1) Microbes like bacteria & many fungi cultures are usefuls in studies on micro-organism.
(2) During growth, the LAB produce acids that coagulate and partially digest the milk proteins.
(3) Roquefort cheese are ripened by growing a specific fungi on them, which gives them a particular flavour.
(4) Wine & beer are produced by distillation of fermented broth.

71. The technology of biogas production from cow dung was developed in India largely due to the efforts of
(1) Gas Authority of India
(2) Oil and Natural Gas Commission
(3) Indian Agricultural Research Institute and Khadi & Village Industries Commission
(4) Indian Oil Corporation.

MISCELLANEOUS QUESTIONS

1. Broad spectrum antibiotic is that which
(1) Acts on both pathogens and hosts
(2) Acts on all bacteria and niruses
(3) Acts on a variety of pathogenic micro-organisms
(4) Is effective in very small amounts

2. Antibiotics inhibit the growth of or destroy
(1) Bacteria and fungi
(2) Bacteria and viruses
(3) Bacteria, algae and viruses
(4) Bacteria, fungi and viruses

3. Important objective of biotechnology in agriculture section is
(1) To produce pest resistant varieties of plant
(2) To increase the nitrogen content
(3) To decrease the seed number
(4) To increase the plant weight

4. Biogas can be a good substitute for
(1) Fuel wood (2) Petroleum and oil (3) Coal (4) Charcoal

5. Penicillin was discovered by
(1) Waksman (2) Dubois (3) Roberk Koch (4) A. Flemming

6. Yoghurt is produced with the help of
(1) Lactobacillus bulgaricus and Lactobcillus thermophilus
(2) Lactobacillus thermophilus and Streptocccus thermophilus
(3) Lactobacillus bulgaricus Streptocccus themophilus
(4) Lactobacillus kefir and Streptocccus thermphilus

7. Cyclosporin A, used as immunosuppressive agent in organ transplants, is produced by
(1) Trichoderma (2) Monoascus (3) Streptococcus (4) Staphylococcus

8. The bacterium that helps in breakdown of cellulose in rumen of cattle is
(1) Clostridium (2) Lactobacillus (3) Methanobacterium (4) Escherichia

9. Large holes in Swiss cheese are formed due to production of a large amount of CO_2 by
(1) Propionibacterium (2) Mycobacterium (3) Saccharomyces (4) Penicillium

10. The fungus used for commercial production of citric acid is :
(1) Clostridium (2) Saccharomyces (3) Aspergillus (4) Penicillium

Exercise-2

1. Match list - I with list-II and select the correct answer using the codes given below the lists:

List - I	**List - II**	**[2nd NSO I L]**
(A) *Ficus bengalensis*	(i) fibre	
(B) *Melia azadirachta*	(ii) pesticide	
(C) *Cocos nucifera*	(iii) latex	
(D) *Hevea brasiliensis*		

(1) (A) - (i) , (B) - (ii) ,(C) - (iii) , (D) - (ii)
(2) (A) - (iii) , (B) - (i) ,(C) - (ii) , (D) - (iii)
(3) (A) - (iii) , (B) - (iii) ,(C) - (i) , (D) - (ii)
(4) (A) - (iii) , (B) - (ii) ,(C) - (i) , (D) - (iii)

2. The function of nitrogen fixation in *Anabaena* (cyanobacterium) is performed by **[1st NSEB]**
(1) Thylakoid (2) Heterocyst (3) Phycocyanin (4) Phycoerythrin

3. Farmers need to apply less nitrogenous fertilizers to fields if one of these plants are present **[FINBO]**
(1) Rhodophyceae (2) *Spirogyra* (3) *Azolla* spp. (4) Weeds

Exercise-3

PART - I : NEET / AIPMT QUESTION (PREVIOUS YEARS)

1. Which of the following is not used as a biopesticide? **(AIPMT-2009)**
(1) *Bacillus thuringiensis* (2) T*richoderma harzianum*
(3) Nuclear Polyhedrosis Virus (NPV) (4) *Xanthomonas compestris*

2. The bacterium *Bacillus thuringiensis* is widely used in contemporary biology as **(AIPMT-2009)**
(1) Indicator of water pollution (2) Insecticide
(3) Agent for production of dairy products (4) Source of industrial enzyme

3. The common nitrogen-fixer in paddy fields is **(AIPMT-2010)**
(1) *Azospirillum* (2) *Oscillatoria*
(3) *Frankia* (4) *Rhizobium*

4. One of the free-living anaerobic nitrogen-fixer is **(AIPMT-2010)**
(1) *Rhodospirillum* (2) *Rhizobium*
(3) *Azotobacter* (4) *Beijernickia*

5. The biomass available for consumption by the herbivores and decomposers is called **(AIPMT-2010)**
(1) Secondary productivity (2) Standing crop
(3) Gross primary productivity (4) Net primary productivity

6. Select the correct statement from the following **(AIPMT-2010)**

(1) *Methanobaeterium* is aerobic bacterium found in rumen of cattle

(2) Biogas, commonly called gobar gas, is pure methane

(3) Activated sludge-sediment in settlement tanks of sewage treatment plant is a rich source of aearobic bacteria

(4) Biogas is produced by the activity of aerobic bacteria on animal waste

7. dB is a standard abbreviation used for the quantitative expression of **(AIPMT-2010)**

(1) A particular pollutant (2) The dominant Bacillus in a culture

(3) A certain pesticide (4) The density of bacteria in a medium

8. Stirred-tank bioreactors have been designed for **(AIPMT-2010)**

(1) Purification of the product

(2) Ensuring anaerobic conditions in the culture vessel

(3) Availability of oxygen thronghout the process

(4) Addition of preservatives to the product

9. A common biocontrol agent for the control of plant disease is **(AIPMT-2010)**

(1) *Bacillus thruingiensis* (2) *Glomus*

(3) *Trichoderma* (4) *Baculovirus*

10. Which one of the following is not used in organic farming **(AIPMT-2010)**

(1) Earthworm (2) *Oscillatoria* (3) Snail (4) Glomus

11. Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct? **(AIPMT-2011)**

(1) Yeast - statins (2) *Acetobacter aceti* - acetic

(3) *Clostridium butylicum* - lactic acid (4) *Aspergillus niger* - citric acid

12. Consider the following statements (A-D) about organic farming **(AIPMT-2011)**

(A) Utilizes genetically modified crops like Bt cotton

(B) Uses only naturally produced inputs like compost

(C) Does not use pesticides and urea

(D) Produces vegetables rich in vitamins and minerals

Which of the above statements are correct?

(1) (B), (C) and (D) (2) (C) and (D) only

(3) (B) and (C) only (4) (A) and (B) only

13. *Bacillus thuringiensis* forms protein crystals which contain insecticidal protein **(AIPMT-2011)**

(1) binds with epithelial cells of midgut of the insect pest ultimately killing it

(2) is coded by several genes including the gene *cry*

(3) is activated by acid pH of the foregut of the insect pest

(4) does not kill the carrier bacterium which is itself resistant to this toxin

14. In gobar gas, the maximum amount is that of **(AIPMT Main-2012)**

(1) Butane (2) Methane (3) Propane (4) Carbon dioxide

15. The domestic sewage in large cities **(AIPMT Main-2012)**

(1) has a high BOD as it contains both aerobic and anaerobic bacteria

(2) is processed by aerobic and then anaerobic bacteria in the secondary treatment in Sewage Treatment Plants (STPs)

(3) when treated in STPs does not really require the aeration step as the sewage contains adequate oxygen.

(4) has very high amounts of suspended solids and dissolved salts

16. During sewage treatment, biogases are produced which include **(NEET-2013)**

(1) Methane, Oxygen, Hydrogensulphide

(2) Hydrogensulphide, Methane, Sulphur dioxide

(3) Hydrogensulphide, Nitrogen, Methane

(4) Methane, Hydrogensulphide, Carbon dioxide

17. Which one of the following Bt crops is being grown in India by the farmers? **(NEET-2013)**

(1) Cotton (2) Brinjal (3) Soybean (4) Maize

18. A good producer of citric acid is **(NEET-2013)**

(1) *Pseudomonas* (2) *Clostridium* (3) *Saccharomyces* (4) *Aspergillus*

19. An alga which can be employed as food for human beings: **(AIPMT-2014)**

(1) *Ulothrix* (2) *Chlorella* (3) *Spirogyra* (4) *Polysiphonia*

20. What gases are produced in anaerobic sludge digesters? **(AIPMT-2014)**

(1) Methane and CO_2

(2) Methane, Hydrogen Sulphide and CO_2

(3) Methane, Hydrogen Sulphide and CO_2

(4) Hydrogen Sulphide and CO_2

21. Match the following list of microbes and their importance: **(Re-AIPMT-2015)**

(a)	*Sacharomyces cerevisiae*	(i)	Production of immunosuppressive agents
(b)	*Monascus purpureus*	(ii)	Ripening of Swiss cheese
(c)	*Trichodemra polysporum*	(iii)	Commerical production of ethanol
(d)	*Propionibacterium sharmanii*	(iv)	Production of blood cholesterol lowering agents

	(a)	(b)	(c)	(d)
(1)	(iv)	(iii)	(ii)	(i)
(2)	(iv)	(ii)	(i)	(iii)
(3)	(iii)	(i)	(iv)	(ii)
(4)	(iii)	(iv)	(i)	(ii)

22. Which of the following is wrongly matched in the given table? **(NEET-1-2016)**

	Microbe	Product	Application
(1)	*Clostridium butylicum*	Lipase	removal of oil stains
(2)	*Trichoderma polysporum*	Cyclosporin A	immunosuppressive drug
(3)	*Monascus purpureus*	Statins	lowering of blood cholesterol
(4)	*Streptococcus*	Streptokinase	removal of clot from blood vessel

23. Which of the following statements is wrong for viroids? **(NEET-1-2016)**

(1) Their RNA is of high molecular weight (2) They lack a protein coat

(3) They are smaller than viruses (4) They cause infections

24. A river with an inflow of domestic sewage rich in organic waste may result in : **(NEET-1-2016)**

(1) Death of fish due to lack of oxygen.

(2) Drying of the river very soon due to algal bloom.

(3) Increased population of aquatic food web organisms.

(4) An increased production of fish due to biodegradable nutrients

25. Match Column-I with Column-II and select the correct option using the codes given below:

(NEET-2- 2016)

Column-I	**Column-II**
a. Citric acid	(i) Trichoderma
b. Cyclosporin A	(ii) Clostridium
c. Statins	(iii) Aspergillus
d. Butyric	(iv) Monascus

Codes :

	a	**b**	**c**	**d**
(1)	(iii)	(iv)	(i)	(ii)
(2)	(iii)	(i)	(ii)	(iv)
(3)	(iii)	(i)	(iv)	(ii)
(4)	(i)	(iv)	(ii)	(iii)

26. Biochemical Oxygen Demand (BOD) may not be good index for pollution for water bodies receiving effluents from **(NEET-2-2016)**

(1) sugar industry (2) domestic sewage

(3) dairy industry (4) petroleum industry

27. Which of the following in sewage treatment removes suspended solids? **(NEET-2017)**

(1) Tertiary treatment (2) Secondary treatment

(3) Primary treatment (4) Sludge treatment

28. Which of the following is correctly matched for the product produced by them? **(NEET-2017)**

(1) *Acetoacter aceti* : Antibiotics (2) *Methanobacterium* : lactic acid

(3) *Penicillium notatum* : Acetic acid (4) *Sacchromyces cerevsiae* : Ethanol

29. Conversion of milk to curd improves its nutritional value by increasing the amount of **(NEET-2018)**

(1) Vitamin D (2) Vitamin E (3) Vitamin B_{12} (4) Vitamin A

30. Which of the following is a commercial blood cholesterol lowering agent? **(NEET-1-2019)**

(1) Lipases (2) Cyclosporin A (3) Statin (4) Streptokinase

31. Match the following organisms with the products they produce: **(NEET-1-2019)**

(a) Lactobacillus	(i) Cheese
(b) Saccharomyces cerevisiae	(ii) Curd
(c) Aspergillus niger	(iii) Citric Acid
(d) Acetobacter aceti	(iv) Bread
	(v) Acetic Acid

Select the correct option.

	(a)	**(b)**	**(c)**	**(d)**
(1)	(ii)	(i)	(iii)	(v)
(2)	(ii)	(iv)	(v)	(iii)
(3)	(ii)	(iv)	(iii)	(v)
(4)	(iii)	(iv)	(v)	(i)

32. Select the correct group of biocontrol agents. **(NEET-1-2019)**

(1) Nostoc, Azospirillium, Nucleopolyhedrovirus

(2) Bacillus thuringiensis, Tobacco mosaic virus, Aphids

(3) Trichoderma, Baculovirus, Bacillus thuringiensis

(4) Oscillatoria, Rhizobium, Trichoderma

33. Among the following pairs of microbes, which pair has both the microbes that can be used as biofertilizers? **(NEET-2-2019)**

(1) Aspergillus and Rhizopus (2) Rhizobium and Rhizopus

(3) Cyanobacteria and Rhizobium (4) Aspergillus and Cyanobacteria

PART - II : AIIMS QUESTION (PREVIOUS YEARS)

1. Chloramphenicol and erythromycin (Broad spectrum antibiotics) are produced by **(AIIMS-2014)**

(1) Streptomyces (2) Nitrobacter (3) Rhizobium (4) Penicillium

2. Choose the right combination **(AIIMS-2016)**

Column-I	**Column-II**
A. *Escherichia coli*	I. Nif gene
B. *Rhizobium melilotae*	II. Digestive hydrocarbon of crude oil
C. *Bacillus thuringiensis*	III. Production of human insulin
D. *Pseudomonas putida*	IV. Biological control of fungal disease
	V. Bio- decomposed insectiside

(1) A-III, B-I, C-V, D-IV (2) A-I, B-II, C-III, D-IV

(3) A-II, B-I, C-III, D-IV (4) A-III, B-I, C-V, D-II

3. Which of the following is not used as a biopesticide? **(AIIMS-2017)**

(1) *Bacillus thuringiensis* (2) *Xanthomonas campestris*

(3) Nuclear Polyhedrosis Virus (NPV) (4) *Trichoderma horzianum*

4. Match **Column-I** (microbes) to the **Column-II** (biological products) and select the option having correct matching. **(AIIMS-2018-I)**

Column-I	**Column-II**
(A) *Acetobacter aceti*	(i) Citric acid
(B) *Clostridium butylicum*	(ii) Latic acid
(C) *Aspergillus niger*	(iii) Acetic acid
(D) *Lactobacillus*	(iv) Butyric acid

Options

(1) A–(ii), B–(i), C–(iii), D–(iv) (2) A–(iii), B–(ii), C–(i), D–(iv)

(3) A–(iii), B–(iv), C–(i), D–(ii) (4) A–(iv), B–(iii), C–(ii), D–(i)

5. Match column-I with column-II and select the option having correct matching – **(AIIMS-2018-III)**

Column-I		**Column-II**	
A.	Streptokinase	**i.**	*Penicillium notatum*
B.	Statins	**ii.**	*Monascus purpureus*
C.	Cyclosporin-A	**iii**	*Streptococcus*
D.	Penicillin	**iv.**	*Trichoderma*

(1) A - i, B - ii, C - iii, D - iv (2) A - iii, B - ii, C - i, D - iv

(3) A - iii, B - ii, C - iv, D - i (4) A - iv, B - ii, C - iii, D - i

6. Which among the following alcoholic beverage will be formed by distillation? **(AIIMS-2018-IV)**

(1) Brandy (2) Wine (3) Beer (4) All

Answers

EXERCISE - 1

1.	(3)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(4)	**6.**	(4)	**7.**	(2)
8.	(1)	**9.**	(1)	**10.**	(3)	**11.**	(1)	**12.**	(2)	**13.**	(1)	**14.**	(1)
15.	(4)	**16.**	(4)	**17.**	(4)	**18.**	(2)	**19.**	(4)	**20.**	(4)	**21.**	(2)
22.	(3)	**23.**	(1)	**24.**	(4)	**25.**	(1)	**26.**	(2)	**27.**	(4)	**28.**	(3)
29.	(3)	**30.**	(3)	**31.**	(2)	**32.**	(3)	**33.**	(4)	**34.**	(1)	**35.**	(3)
36.	(4)	**37.**	(1)	**38.**	(2)	**39.**	(3)	**40.**	(4)	**41.**	(2)	**42.**	(1)
43.	(2)	**44.**	(1)	**45.**	(2)	**46.**	(2)	**47.**	(4)	**48.**	(1)	**49.**	(3)
50.	(2)	**51.**	(2)	**52.**	(2)	**53.**	(4)	**54.**	(2)	**55.**	(3)	**56.**	(3)
57.	(2)	**58.**	(1)	**59.**	(2)	**60.**	(4)	**61.**	(4)	**62.**	(4)	**63.**	(4)
64.	(1)	**65.**	(1)	**66.**	(1)	**67.**	(2)	**68.**	(4)	**69.**	(4)	**70.**	(4)
71.	(3)												

MISCELLANEOUS QUESTIONS

1.	(3)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(4)	**6.**	(3)	**7.**	(1)
8.	(3)	**9.**	(1)	**10.**	(3)								

EXERCISE - 2

1.	(4)	**2.**	(2)	**3.**	(3)

EXERCISE - 3

PART- I

1.	(4)	**2.**	(2)	**3.**	(1)	**4.**	(3)	**5.**	(4)	**6.**	(3)	**7.**	(1)
8.	(3)	**9.**	(3)	**10.**	(3)	**11.**	(3)	**12.**	(3)	**13.**	(1)	**14.**	(2)
15.	(2)	**16.**	(4)	**17.**	(1)	**18.**	(4)	**19.**	(2)	**20.**	(2)	**21.**	(4)
22.	(1)	**23.**	(1)	**24.**	(1)	**25.**	(3)	**26.**	(4)	**27.**	(3)	**28.**	(4)
29.	(3)	**30.**	(3)	**31.**	(3)	**32.**	(3)	**33.**	(3)				

PART- II

1.	(1)	**2.**	(4)	**3.**	(2)	**4.**	(3)	**5.**	(3)	**6.**	(1)