

**AIPMT 2008**

1. Which one of the following is being tried in India as a biofuel substitute for fossil fuels ?  
 (1) *Jatropha* (2) *Musa*  
 (3) *Aegilops* (4) *Azadirachta*

**AIPMT Mains 2011**

2. Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct ?  
 (1) *Aspergillus niger* - citric acid  
 (2) Yeast - Statins  
 (3) *Acetobacter aceti* - acetic acid  
 (4) *Clostridium butylicum* - lactic acid
3. Read the following statement having two blanks (A and B) :  
 "A drug used for \_\_\_(A)\_\_\_ patients is obtained from a species of the organism \_\_\_(B)\_\_\_."  
 The one correct option for the two blanks is:-
- |                      |                    |
|----------------------|--------------------|
| <b>Blank - A</b>     | <b>Blank - B</b>   |
| (1) AIDS             | <i>Pseudomonas</i> |
| (2) Heart            | <i>Penicillium</i> |
| (3) Organ-transplant | <i>Trichoderma</i> |
| (4) Swine flu        | <i>Monascus</i>    |

**AIPMT Pre 2012**

4. Yeast is used in the production of :-  
 (1) Bread and beer  
 (2) Cheese and butter  
 (3) Citric acid and lactic acid  
 (4) Lipase and pectinase
5. A patient brought to a hospital with myocardial infarction is normally immediately given :-  
 (1) Cyclosporin-A (2) Statins  
 (3) Penicillin (4) Streptokinase
6. Which one of the following is an example of carrying out biological control of pests/diseases using microbes?  
 (1) Bt-Cotton to increase cotton yield  
 (2) Lady bird beetle against aphids in mustard  
 (3) *Trichoderma* sp. against certain plant pathogens.  
 (4) Nucleopolyhedrovirus against white rust in Brassica

7. The most abundant prokaryotes helpful to humans in making curd from milk and in production of antibiotics are ones categorised as:-  
 (1) Chemosynthetic autotrophs  
 (2) Heterotrophic bacteria  
 (3) Cyanobacteria  
 (4) Archaeobacteria
8. *Monascus purpureus* is a yeast used commercially in the production of :-  
 (1) citric acid  
 (2) blood cholesterol lowering statins  
 (3) ethanol  
 (4) streptokinase for removing clots from the blood vessels.

**AIPMT Mains 2012**

9. In gobar gas, the maximum amount is that of:-  
 (1) Propane  
 (2) Carbon dioxide  
 (3) Butane  
 (4) Methane
10. Consider the following four statements (a-d) and select the option which includes all the correct ones only:-  
 (a) Single cell *Spirulina* can produce large quantities of food rich in protein, minerals, vitamins etc.  
 (b) Body weight-wise the microorganism *Methylophilus methylotrophus* may be able to produce several times more proteins than the cows per day.  
 (c) Common button mushrooms are a very rich source of vitamin C.  
 (d) A rice variety has been developed which is very rich in calcium.

**Options :**

- (1) Statements (b) , (c) and (d)  
 (2) Statements (a) , (b)  
 (3) Statements (c) , (d)  
 (4) Statements (a) , (c) and (d)

## NEET-UG 2013

11. A good producer of citric acid is :-  
 (1) *Saccharomyces* (2) *Aspergillus*  
 (3) *Pseudomonas* (4) *Clostridium*
12. During sewage treatment, biogases are produced which include :-  
 (1) hydrogen sulphide, nitrogen, methane  
 (2) methane, hydrogen sulphide, carbon dioxide  
 (3) methane, oxygen, hydrogen sulphide  
 (4) hydrogen sulphide, methane, sulphur dioxide

## Re-AIPMT 2015

13. Match the following list of microbes and their importance :-

(a) <i>Saccharomyces cerevisiae</i>	(i)	Production of immunosuppressive agents
(b) <i>Monascus purpureus</i>	(ii)	Ripening of Swiss cheese
(c) <i>Trichoderma polysporum</i>	(iii)	Commercial production of ethanol
(d) <i>Propionibacterium sharmanii</i>	(iv)	Production of blood cholesterol lowering agents

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

## NEET-I 2016

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

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

15. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals, include the :-  
 (1) Halophiles  
 (2) Thermoacidophiles  
 (3) Methanogens  
 (4) Eubacteria

## NEET-II 2016

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

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

Codes :

- |     | a   | b  | c  | d   |
|-----|-----|----|----|-----|
| (1) | i   | iv | ii | iii |
| (2) | iii | iv | i  | ii  |
| (3) | iii | i  | ii | iv  |
| (4) | iii | i  | iv | ii  |
17. The source of cyclosporin-A is :-  
 (1) *Acetobacter aceti*  
 (2) *Saccharomyces cerevisiae*  
 (3) *Aspergillus niger*  
 (4) *Trichoderma polysporum*
18. Statins commercially used as blood cholesterol lowering agents are produced by:-  
 (1) *Agrobacterium tumefaciens*  
 (2) *Trichoderma polysporum*  
 (3) *Monascus purpureus*  
 (4) *Trichoderma viridae*
19. Which of the following is a free living biocontrol microbial agent for plant pathogen?  
 (1) Mucor (2) Glomus  
 (3) *Trichoderma* (4) *Rhizobium*
20. Biological control agent obtained from :-  
 (1) *Bacillus thuringiensis*  
 (2) *E.coli*  
 (3) *Agrobacterium tumifaciens*  
 (4) *Meloidogyne incognitia*

## NEET (UG) 2017

21. Which of the following is correctly matched for the product produced by them ?
- (1) *Methanobacterium* : Lactic acid
  - (2) *Penicillium notatum* : Acetic acid
  - (3) *Saccharomyces cerevisiae* : Ethanol
  - (4) *Acetobacter aceti* : Antibiotics

## NEET (UG) 2018

22. Conversion of milk to curd improves its nutritional value by increasing the amount of :-
- (1) Vitamin D
  - (2) Vitamin A
  - (3) Vitamin B<sub>12</sub>
  - (4) Vitamin E

## NEET (UG) 2019

23. Match the following organisms with the products they produce :-
- |                                     |                   |
|-------------------------------------|-------------------|
| (a) <i>Lactobacillus</i>            | (i) Cheese        |
| (b) <i>Saccharomyces cerevisiae</i> | (ii) Curd         |
| (c) <i>Aspergillus niger</i>        | (iii) Citric Acid |
| (d) <i>Acetobacter aceti</i>        | (iv) Bread        |
|                                     | (v) Acetic Acid   |

Select the **correct** option.

- |     |            |            |            |            |
|-----|------------|------------|------------|------------|
|     | <b>(a)</b> | <b>(b)</b> | <b>(c)</b> | <b>(d)</b> |
| (1) | (ii)       | (iv)       | (v)        | (iii)      |
| (2) | (ii)       | (iv)       | (iii)      | (v)        |
| (3) | (iii)      | (iv)       | (v)        | (i)        |
| (4) | (ii)       | (i)        | (iii)      | (v)        |
24. Which of the following can be used as a biocontrol agent in the treatment of plant disease?
- (1) *Trichoderma*
  - (2) *Chlorella*
  - (3) *Anabaena*
  - (4) *Lactobacillus*
25. Which of the following is a commercial blood cholesterol lowering agent?
- (1) Cyclosporin A
  - (2) statin
  - (3) Streptokinase
  - (4) Lipases
26. Select the **correct** group of biocontrol agents:
- (1) *Bacillus thuringiensis*, Tobacco mosaic virus, Aphids
  - (2) *Trichoderma*, *Baculovirus*, *Bacillus thuringiensis*
  - (3) *Oscillatoria*, *Rhizobium*, *Trichoderma*
  - (4) *Nostoc*, *Azospirillum*, *Nucleopolyhedrovirus*

## NEET (UG) 2019 (Odisha)

27. A biocontrol agent to be a part of an integrated pest management should be :-
- (1) Species-specific and symbiotic
  - (2) Free living and broad spectrum
  - (3) Narrow spectrum and symbiotic
  - (4) Species-specific and inactive on non-target organisms
28. Which of the following statements about methanogens is not correct ?
- (1) They can be used to produce biogas.
  - (2) They are found in the rumen of cattle and their excreta
  - (3) They grow aerobically and breakdown cellulose-rich food.
  - (4) They produce methane gas.
29. Among the following pairs of microbes, which pair has both the microbes that can be used as biofertilizers?
- (1) *Aspergillus* and *Rhizopus*
  - (2) *Rhizobium* and *Rhizopus*
  - (3) *Cyanobacteria* and *Rhizobium*
  - (4) *Aspergillus* and *Cyanobacteria*

## NEET (UG) 2020

30. Match the following columns and select the correct option:-

	Column-I		Column-II
(a)	<i>Clostridium butylicum</i>	(i)	Cyclosporin-A
(b)	<i>Trichoderma polysporum</i>	(ii)	Butyric Acid
(c)	<i>Monascus purpureus</i>	(iii)	Citric Acid
(d)	<i>Aspergillus niger</i>	(iv)	Blood cholesterol lowering agent

- |     |            |            |            |            |
|-----|------------|------------|------------|------------|
|     | <b>(a)</b> | <b>(b)</b> | <b>(c)</b> | <b>(d)</b> |
| (1) | (iv)       | (iii)      | (ii)       | (i)        |
| (2) | (iii)      | (iv)       | (ii)       | (i)        |
| (3) | (ii)       | (i)        | (iv)       | (iii)      |
| (4) | (i)        | (ii)       | (iv)       | (iii)      |

## NEET (UG) 2020 (COVID-19)

31. For the commercial and industrial production of Citric Acid, which of the following microbes is used ?
- (1) *Aspergillus niger*
  - (2) *Lactobacillus sp*
  - (3) *Saccharomyces cerevisiae*
  - (4) *Clostridium butylicum*
32. Match the following columns and select the correct option :-

Column-I	Column-II
(a) Dragonflies	(i) Biocontrol agents of several plant pathogens
(b) <i>Bacillus thuringiensis</i>	(ii) Get rid of Aphids and mosquitoes
(c) Glomus	(iii) Narrow spectrum insecticidal applications
(d) Baculoviruses	(iv) Biocontrol agents of lepidopteran plant pests
	(v) Absorb phosphorus from soil

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

33. Cyclosporin A, used as immuno suppression agent, is produced from :-
- (1) *Monascus purpureus*
  - (2) *Saccharomyces cerevisiae*
  - (3) *Penicillium notatum*
  - (4) *Trichoderma polysporum*

## NEET(UG) 2021

34. Match List - I with List - II:-

List-I		List-II	
(a)	<i>Aspergillus niger</i>	(i)	Acetic Acid
(b)	<i>Acetobacter aceti</i>	(ii)	Lactic Acid
(c)	<i>Clostridium butylicum</i>	(iii)	Citric Acid
(d)	<i>Lactobacillus</i>	(iv)	Butyric Acid

Choose the **correct** answer from the options given below.

- |     |            |            |            |            |
|-----|------------|------------|------------|------------|
|     | <b>(a)</b> | <b>(b)</b> | <b>(c)</b> | <b>(d)</b> |
| (1) | (iii)      | (i)        | (iv)       | (ii)       |
| (2) | (i)        | (ii)       | (iii)      | (iv)       |
| (3) | (ii)       | (iii)      | (i)        | (iv)       |
| (4) | (iv)       | (ii)       | (i)        | (iii)      |

## NEET(UG) 2022

35. Identify the microorganism which is responsible for the production of an immune suppressive molecule cyclosporin A?
- (1) *Clostridium butylicum*
  - (2) *Aspergillus niger*
  - (3) *Streptococcus cerevisiae*
  - (4) *Trichoderma polysporum*

## EXERCISE-II (Previous Year Questions)

## ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	1	4	3	1	4	3	2	2	4	2	2	2	2	4	3
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	4	4	3	3	1	3	3	2	1	2	2	4	3	3	3
Question	31	32	33	34	35										
Answer	1	4	4	1	4										

**EXERCISE-III(A) NCERT BASED QUESTIONS**

- Nutritionally curd is more suitable than milk. Which of the following reasons is not supporting to this view:-
  - It increases vitamin B<sub>12</sub>
  - It checks disease-causing microbes
  - LAB converts lactose into lactic acid
  - It provides additional proteins
- Large holes in "Swiss cheese" are due to production of a large amount of CO<sub>2</sub> by ..... bacterium:-
  - Leuconostoc mesenteroides*
  - Propionibacterium sharmanii*
  - Thermococcus proteus*
  - Staphylococcus thermophilus*
- Which of the following is not a product of distillation:-
 

(1) Whisky	(2) Brandy
(3) Wine	(4) Rum
- Find out the odd one with reference to distillation:-
 

(1) Beer	(2) Wine
(3) Both (1) and (2)	(4) Vodka
- Which of the following bacteria was associated with the discovery of penicillin?
  - Streptococcus*
  - Staphylococcus*
  - Saccharomyces cerevisiae*
  - Propionibacterium*
- Full potential of penicillin as an effective antibiotic was established by:-
  - Alexander Fleming
  - Ernest Chain
  - Howard Florey
  - Both 2 and 3
- Which of the following is "Clot buster":-
  - Citric acid
  - Streptokinase
  - Cyclosporin
  - Statins

- Which of the following chemicals, used as an immunosuppressive agent in organ transplantation:-
  - Streptokinase
  - Cyclosporin - A
  - Statins
  - Citric acid
- Match the following :-
 

A. Pectinases	i. Blood cholesterol Lowering agents
B. Streptokinases	ii. Immunosuppressive agents
C. Cyclosporin-A	iii. Clot-busters
D. Statin	iv. Clearifying agents

A	B	C	D
(1) iv	iii	ii	i
(2) iv	iii	i	ii
(3) iii	iv	ii	i
(4) i	ii	iii	iv
- Match the following:-
 

A. Citric acid	i. <i>Haemolytic streptococcus</i>
B. Streptokinase	ii. <i>Aspergillus niger</i>
C. Cyclosporin-A	iii. <i>Monascus purpureus</i>
D. Statins	iv. <i>Trichoderma polysporum</i>

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

**EXERCISE-III(B) (ANALYTICAL QUESTIONS)**

- Functioning of statin is based on:-
  - Competitive inhibition
  - Endproduct inhibition
  - Allosteric inhibition
  - Negative feedback inhibition

12. The technology of biogas production was developed in India mainly due to efforts of :-  
 (1) IARI (2) KVIC  
 (3) IPM (4) Both (1) and (2)
13. *Bacillus thuringiensis* show their inhibitory effect on which part of the insect body:-  
 (1) Gut (2) Respiratory tract  
 (3) Nervous system (4) Circulatory system
14. Which of the following biological agents are used for species specific, narrow spectrum insecticidal applications:-  
 (1) Adenoviruses  
 (2) Nucleopolyhedrosis viruses  
 (3) Retroviruses  
 (4) Trichoderma
15. Which of the following is one of the advantage of application of viruses as bioinsecticides?  
 (1) They are less effective  
 (2) They are host specific  
 (3) They are costly  
 (4) They can not obtain easily
16. In which of the following conditions use of baculoviruses is desirable?  
 (1) When they are used as part of IPM  
 (2) When an ecologically sensitive area is being treated  
 (3) When beneficial insects are being conserved  
 (4) All of the above
17. Use of biofertilizer is the part of:-  
 (1) Inorganic farming  
 (2) Organic farming  
 (3) Energy cropping  
 (4) Energy plantation
18. Members of which of the following fungal genus mainly participate in the mycorrhiza formation?  
 (1) *Azotobacter*  
 (2) *Fusarium*  
 (3) *Rhizopus*  
 (4) *Glomus*
19. Which of the following is not an advantage of mycorrhiza?  
 (1) Phosphorus absorption  
 (2) Resistance to root borne pathogens  
 (3) Nitrogen fixation  
 (4) Tolerance to salinity and draught
20. Cultivation of which of the following crop plant specially get benefitted by application of cyanobacteria?  
 (1) Maize  
 (2) legumes  
 (3) Wheat  
 (4) Rice

## EXERCISE - III

## ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	2	3	4	2	4	2	2	1	3	1	4	1	2	2
Question	16	17	18	19	20										
Answer	4	2	4	3	4										