

SP-III/Botany/304SEC-1(T)/19

B.Sc. Semester III (Programme) Examination, 2018-19

BOTANY

Course ID : 31310

Course Code : SPBOT-304SEC-1(T)

Attempt any one Alternative.

Alternate-I

Course Title: Biofertilizers

Time: 1 Hour

Full Marks: 40

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer any forty from the following questions:

1×40=40

1. Application of blue green algae in field as biofertilizer called
 - (a) Algalization
 - (b) Collonization
 - (c) Inoculation
 - (d) Fructification
2. Nitrogen fixation site is
 - (a) Hormogone
 - (b) Akinete
 - (c) Nanocyst
 - (d) Heterocyst
3. Fogg's medium is used for growing
 - (a) *Cyanobacteria*
 - (b) *Rhizobium*
 - (c) *Azotobacter*
 - (d) *Azospirillum*
4. Okon's medium is used for mass cultivation of
 - (a) *Rhizobium*
 - (b) *Azospirillum*
 - (c) *Azotobacter*
 - (d) *Anabaena*
5. *Rhizobium* is identified by
 - (a) VP test
 - (b) Indole test
 - (c) CRYEMA test
 - (d) None of these
6. Charcoal is used for making biofertilizer as
 - (a) Sterilizer
 - (b) Carrier
 - (c) Food supplier
 - (d) Remover
7. *Rhizobium* is a
 - (a) Gram negative and aerobic
 - (b) Gram negative and anaerobic
 - (c) Gram positive and anaerobic
 - (d) Gram positive and aerobic
8. Which one is green manure/biofertilizer
 - (a) *Sesbaenia*
 - (b) Maize
 - (c) Rice
 - (d) Oat

9. Some BGA can be used as biofertilizer as they are
(a) photosynthetic (b) surrounded by mucilage
(c) growing everywhere (d) capable of fixing nitrogen
10. Leghaemoglobin is found in
(a) Nodule (b) Heterocyst
(c) Akinete (d) All of these
11. Vermicompost is biofertilizer rich in
(a) Phosphorus (b) Calcium
(c) Nitrogen (d) All of these
12. Worm castings are rich in
(a) Nitrogen (b) Phosphorus
(c) Calcium (d) All of these
13. Which are uses a green manure?
(a) *Melilotus parviflora* (b) *Hibiscus rosasinensis*
(c) *Mangifera indica* (d) *Sida cordifolia*
14. An organism which improves phosphorus uptake is
(a) Actinomycete fungi (b) *Rhizobium*
(c) *Azospirillum* (d) *Azotobacter*
15. Which one of the following is not a biofertilizer?
(a) *Agrobacterium* (b) *Rhizobium*
(c) *Nostoc* (d) *Mycorrhiza*
16. An organism used as a biofertilizer for raising soybean crop is
(a) *Nostoc* (b) *Azotobacter*
(c) *Azospirillum* (d) *Rhizobium*
17. Organic farming related statement is
(a) Bt cotton is used to improve fertility of soil
(b) Compost is used to improve fertility of soil
(c) Compost is eco-friendly
(d) Both (b) and (c) is correct
18. For making carrier based inoculants of *Rhizobium* following material is used:
(a) Paddy straw (b) Charcoal
(c) Water (d) CaCO_3
19. *Rhizobium* is grown on
(a) Nutrient agar medium (b) YEM medium
(c) MS medium (d) Nitsch's medium
20. Select the odd one with reference to biofertilizer.
(a) Bacteria (b) Fungi
(c) Cyanobacteria (d) Viruses

21. Plants having mycorrhizal association show
- (a) resistance to root borne pathogens (b) N₂-fixation
(c) tolerance to salinity and drought (d) More than one option is correct
22. Which of the following microbe is most active N₂-fixer in rice field in India?
- (a) *Rhizobium* (b) *Rhodospirillum*
(c) *Frankia* (d) *Aulosira*
23. Biofertilizers
- (a) increase dependance on chemical fertilizers.
(b) are organisms that enrich the nutrient quality of soil.
(c) include pottash, phosphatic and N₂-organic.
(d) are used regularly in the fields to deplete soil nutrients.
24. The paddy fields _____ as an important biofertilizers.
- (a) *Rhizobium* (b) BGA
(c) *Glomus* (d) *Frankia*
25. *Clostridium* is a
- (a) Symbiotic N₂-fixers (b) Non symbiotic N₂-fixers
(c) Associative N₂-fixers (d) None of these
26. A N₂-fixing microbe associated with Azolla in rice fields is
- (a) *Anabaena* (b) *Spirulina*
(c) *Tolypothrix* (d) *Frankia*
27. Which one form symbiotic association with root of plant?
- (a) *Trichoderma* (b) *Glomus*
(c) *Azotobacter* (d) *Aspergillus*
28. No gene interaction and morphogenetic changes occur
- (a) in case of associative N₂-fixer (b) in case of symbiotic N₂-fixers
(c) in case of commensalism (d) in case of non-symbiotic N₂-fixers
29. VAM stands for
- (a) Vesicular Arbuscular Mycorrhiza (b) Variable Adenine Mutation
(c) Variable Associative Mutualism (d) Vitamins And Minerals
30. N₂-fixation is
- (a) Nitrogen to ammonia (b) Nitrogen to nitrates
(c) Nitrogen to amino acid (d) Both (a) and (b)
31. Green manure plants belong to
- (a) Compositae (b) Solanaceae
(c) Poaceae (d) Leguminosae

32. Aquatic fern which is an excellent biofertilizer
(a) *Salvinia* (b) *Azolla*
(c) *Marsilea* (d) *Pteridium*
33. VAM is important for
(a) Breaking dormancy (b) Phosphate mutation
(c) Water uptake (d) Retarding flowering
34. pH of vermiculture is kept at
(a) Alkaline (b) Acidic
(c) Neutral (d) Highly alkaline
35. Leguminous plants able to fix atmospheric N_2 through symbiotic activity which is not correct:
(a) Leghaemoglobin Scavenger
(b) Nitrogenase is insensitive to O_2
(c) Nodules act as sites for N_2 -fixation
(d) Nitrogenase catalyzes the conversion of N_2 to NH_3
36. They help in increasing soil fertility
(a) *Pseudomonas* and *cereals* (b) *Bacillus* and *Penicillium*
(c) *Salvinia* and *Marsilea* (d) *Nostoc* and *legumes*
37. Association of roots of higher plants and fungi is
(a) Mycorrhiza (b) Lichen
(c) Fern (d) Moss
38. Which bacteria secrete phosphatase?
(a) *Frankia* (b) *Clostridium*
(c) *Azotobacter* (d) *Pseudomonas*
39. Which one is biofertilizer?
(a) VAM (b) DCMU
(c) CAM (d) CMU
40. Starter culture means
(a) Broth culture containing bacteria used for mass multiplication
(b) culture which is used for nodulation
(c) Inoculation of culture for making carrier base inoculant
(d) culture used for identification
41. Which one is correct statement?
(a) Biofertilizer is difficult to storage, difficulty in application.
(b) Biofertilizer is eco-friendly.
(c) Biofertilizer is more expensive.
(d) Both (a) and (b) is correct

42. Which one is incorrect about fertilizer?
- (a) It is nutrient specific (b) It is water insoluble
(c) It is readily absorbed by the plant (d) It is compact and easy to transport
43. Find out the correct sentence about manure.
- (i) Manure contains large quantities of organic matter
(ii) It increases the water holding capacity of sandy soil
(iii) It helps in draining out of excess of water from clayey soil
(iv) It excessive use pollutes environment
- (a) (i) and (iii) (b) (i) and (ii)
(c) (ii) and (iii) (d) (iii) and (iv)
44. Which one is not available in fertilizers?
- (a) Nitrogen (b) Phosphorus
(c) Iron (d) Potassium

Alternate-II**Course Title: Herbal Technology**

Answer all the questions:

1×40=40

1. Which active constituent of *Catharanthus* have cardio protective activity?
- (a) Vincristine (b) Ajmalicine
(c) Serpentine (d) All of these
2. Depending upon the natural origin drugs are following type:
- (a) 3 (b) 2
(c) 4 (d) None of these
3. The term Pharmacognosy was first used by
- (a) Seydlar (b) Derosne
(c) Berg (d) None of these
4. The study of the action of drug is known as
- (a) Pathology (b) Pharmacology
(c) Pharmacognosy (d) All of these
5. The scientific name of Fenugreek is
- (a) *Centella asiatica* (b) *Saraca indica*
(c) *Trigonella-foenum-graecum* (d) All of these
6. *Clerodendron phlomoidis* is used as
- (a) Cardioprotective agent (b) Anti rheumatic agent
(c) Memory boostee agent (d) All of these

7. Chemical Evaluation of crude drug means
- (a) Determining the active constituents in the drug
 - (b) Determining the moisture content in the drug
 - (c) Total ash content in the drug
 - (d) All of the above
8. Following is the one of the biological testing of herbal drug:
- (a) Hepatoprotective activity
 - (b) Radiomuno Assays
 - (c) Fluorescence analysis
 - (d) None of these
9. The literature of Siddha system is mostly in
- (a) Bengali
 - (b) Hindi
 - (c) Tamil
 - (d) All of these
10. Which is a factor for preservation of drug?
- (a) Temperature
 - (b) Radiation
 - (c) Water
 - (d) Moisture
11. Common fumigant used for storage of crude drug—
- (a) Methyl bromide
 - (b) Sodium arsenate
 - (c) Calcium arsenate
 - (d) NaCl
12. The scientific name of 'Nayantara' is
- (a) *Datura metal*
 - (b) *Catharanthus roseus*
 - (c) *Saraca indica*
 - (d) None of these
13. Indian Gooseberry is rich in
- (a) Vit- A
 - (b) Vit- C
 - (c) Vit- E
 - (d) Iodine
14. Indian Gooseberry plant have
- (a) Antioxidant property
 - (b) Antidiabetic property
 - (c) Antianxiety property
 - (d) All of these
15. Which chemical is responsible for Fenugreek's distinctive sharp smell?
- (a) Sotolon
 - (b) Brucine
 - (c) Serpentine
 - (d) All of these
16. Which plant act as an anti-diabetic drug?
- (a) Fenugreek
 - (b) Ashoka
 - (c) Ginger
 - (d) Tulsi
17. The useful part of *Clerodendron phlomoidis* for curing rheumatism—
- (a) Root and leaf
 - (b) Root and bark
 - (c) Flower and leaf
 - (d) All of these

18. Which plant have antibacterial property?
(a) Ginger (b) Tulsi
(c) Ashoka (d) All of these
19. In case of micropropagation of medicinal plants which organic supplements is not used?
(a) Yeast extract (b) Coconut milk
(c) Arachis oil (d) All of these
20. Drying process of a crude drug helps
(a) removal of sufficient moisture content (b) removal of foreign organic part
(c) removal of different adulterants (d) None of these
21. Crude drug could be readily stored in
(a) Airtight container (b) Wooden box
(c) Paper bags (d) All of these
22. *Centella asiatica* belongs to the family
(a) Apiaceae (b) Asteraceae
(c) Rubiaceae (d) None of these
23. Who proved the importance of 'flora' in the world?
(a) Sushruta (b) Charaka
(c) Aristotle (d) Both (a) and (c)
24. What form of herbal medicine is widely practiced in India?
(a) Greek (b) Chinese
(c) Ayurvedic (d) Homoeopathic
25. Which part of the Ginger plant is used in health and medicinal product?
(a) Underground stem (b) Seed
(c) Flower (d) Leaf
26. Which Veda deals with various diseases and their treatment?
(a) Rigveda (b) Yajur Veda
(c) Atharva Veda (d) All of these
27. Who did various surgical treatments by the help of natural herbs?
(a) Charaka (b) Sushruta
(c) Kabir (d) All of these
28. Organoleptic evaluation means
(a) Morphological evaluation (b) Biochemical evaluation
(c) Anatomical evaluation (d) None of these
29. Drug adulteration mean
(a) chemical analysis of drugs (b) practice of substituting original drugs
(c) quality analysis (d) Both (a) and (c)

30. One of the condition of 'Drug adulteration' is
(a) Sophistication (b) Evaporation
(c) Sublimation (d) None of these
31. Tulsi plant belongs to the family
(a) Acanthaceae (b) Lamiaceae
(c) Verbenaceae (d) Malvaceae
32. Useful part of Ashoka is
(a) Leaf (b) Stem bark
(c) Fruit (d) Flower
33. Which plant is used as an uterine tonic?
(a) Ginger (b) Ashoka
(c) Tulsi (d) Neem
34. In physical evaluation of drug following content can be measured:
(a) Detection of alkaloid (b) Detection of moisture content
(c) Detection of gums and mucilages (d) All of these
35. Drug evaluation means
(a) Determination of its quality and purity
(b) Determination of its chemical constituents
(c) Effectiveness of drug to the patients
(d) None of the above
36. The process of preparation of crude drug for market after 'Drying' is
(a) Garbling (b) Harvesting
(c) Packing (d) Drying
37. The use of essential oil of plants to treat a range of diseases is called
(a) Naturopathy (b) Aromatherapy
(c) Homoeopathy (d) None of these
38. The common name of *Withania somnifera* is
(a) Nayantara (b) Ashwagandha
(c) Vasaka (d) Tulsi
39. The important constituent of *Withania somnifera* as nervous disorder—
(a) Withanolides (b) Tropina
(c) Anaferine (d) Kalmegh
40. *Catharanthus* belongs to the family
(a) Lamiaceae (b) Apocynaceae
(c) Malvaceae (d) Solanaceae
-