NEET - 2013 - BOTANY : MODEL PAPER

Correct response : 4 Marks
Wrong response : -1 Mark
No response : 0 Marks

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1. Identify the wrong match with respect to the disease and its casual organism.

   a) Black rust of wheat - puccinia graminis
   b) Loose smut of wheat - ustilago nuda
   c) Root knot of vegetables - Meloidogyne sp.
   d) Late blight of potato-Alternaria solani

2. Oxygenic photosynthesis occurs in

   a) Oscillatoria b) Rhodospirillum c) Chlorobium d) Chromatium

3. The correct sequence of plants in a hydrosere is

a) Volvox →	Hydrilla	Pistia	Scirpus	Lantana	Oak
b) Pistia	Volvox	Scirpus	Hydrilla	Oak	Lantana
c) Oak	Lantana	Volvox	Hydrilla	Pistia	Scirpus
d) Oak	Lantana	Scirpus	Pistia	Hydrilla	Volvox

4. Cotyledons and testa, respectively are the edible parts in

   a) Walnut and Tamarind → b) French bean and coconut
   c) Cashewnut and Litchi
   d) Groundnut and pomegranate

5. Whose experiments cracked the DNA and discovered unequivocally that genetic code is a triplet code?

   a) Hershy and chase
   b) Meselson and Stahl
   c) Beadle and Tatum
   d) Nirenberg and Mathaei

6. Reduction in Vascular and mechanical tissues is characteristic of

   a) Mesophytes b) Epiphytes c) Hydrophytes d) Xerophytes

7. Which one of the following acids is a derivative of carotenoids?

   a) Indole acetic acid b) Gibberellic acid c) Abscissic acid d) Indole butyric acid

8. PGA as the first CO_2 fixation product was discovered in the photosynthesis of

   a) A bryophyte b) A gymnosperm c) An angiosperm d) An alga

9. Free-living, anaerobic nitrogen fixer of the following :

   a) Beijernickia b) Rhodospirillum c) Azotobacter d) Nostoc

10. A renewable, exhaustible natural resource is

a) Coal b) Petroleum c) Minerals d) Forest

11. Coiling garden pea tendrils around any support is an example of

a) Thigmotaxis b) Thigmonasty c) Thigmotropism d) Thermotaxis

12. The Scutellum of grass embryo is comparable to which part of the other monocotyledons?

a) Cotyledon b) Endosperm c) Aleurone layer d) Plumule

13. "Himgiri" developed by hybridisation and selection for disease resistance against rust pathogens is a variety of

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

14. Nucellar polyembryony is reported in the species of

a) Citrus b) Gossypium c) Triticum d) Brassica

15. What are the structures called that give an appearance as "Beads-on-string" in the chromatin when viewed under electron microscope?

a) Nucleotides b) Nucleosomes c) Chromomeres d) Genes

16. The ovary is half inferior in the flowers of

a) Peach b) Cucumber c) Cotton d) Guava

17. The gemetophyte is not an independent, free-living generation in
a) Polytrichum b) Adiantum c) Marchantia d) Pinus

18. 'CAM' helps the plants in

a) Conserving water
b) Disease resistance
c) Reproduction
d) Maintaining rapid photosynthesis

19. Ground tissue includes

a) All tissues external to endodermis
b) All tissues except epidermis and vascular bundles
c) Epidermis and cortex
d) All tissues internal to endodermis

20. Both autogamy and geitonogamy are prevented in

a) Papaya b) Cucumber c) Castor d) Maize

21. Measuring Biochemical oxygen demand (BOD) is a method used for

a) Estimating the amount of organic matter in sewage water
b) Working out the efficiency of RBC about their capacity to carry oxygen.
c) Estimating the organic content of the protoplasm
d) Estimating the fermenting efficiency of different of strains of yeast.

22. Monascus purpureus is a yeast used commercially in the production of

a) Ethanol b) Streptokinase for removing clots from blood vessels
c) Citric acid d) Blood cholesterol lowering statins

23. Cycas and Adiantum resemble each other in having

a) Seeds b) Motile sperms c) Cambium d) Vessels

24. The highest number of species amongst the following in the world is represented by

a) Fungi b) Mosses c) Algae d) Lichens

25. Vexillary aestivation is charecterstic of the family

a) Fabaceae b) Asteraceae c) Solanaceae d) Brassicaceae

26. Gymnosperms are also called soft wood spermatophytes because they lack

a) Phloem fibres b) Thick walked tracheids
c) Xylem fibres d) Cambium

27. F_2 generation in a mendelian cross showed that both genotypic and phenotypic ratios are same as 1 : 2 : 1. It represents a case of

a) Co-dominance
b) Dihybrid cross
c) Mono hybrid cross with complete dominance
d) Mono hybrid cross with incomplete dominance

28. Maximum nutritional diversity is found in the group

a) Fungi b) Animalia c) Monera d) Plantae

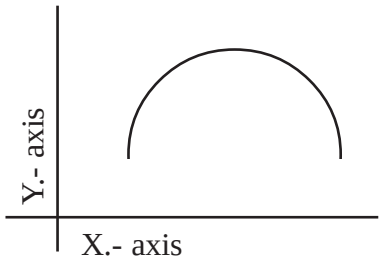
29. Root development is promoted by

a) Abscissic acid b) IAA c) Gibberellin d) Ethylene

30. Silencing of m-RNA has been used in producing transgenic plants resistant to

a) Bollworms b) Nematodes c) White rust d) Bacterial blights

31. The curve given below shows enzyme activity in relation to three conditions (pH, temperature and substrate concentration)



What do the two axises (x and y) represent?

	X - axis	Y - axis
a)	Enzyme activity	pH
b)	Temperature	Enzyme activity
c)	Substrate concentration	Enzyme activity
d)	Enzyme activity	Temperature

32. Identify the wrong match

a) Pencillium - Conidia
b) Water hyacinth - Runner
c) Bryophyllum - leaf buds
d) Agave - Bulbils

33. Whorled, simple leaves with reticulate venation are present in

a) Calotropis b) Neem c) China rose d) Alstonia

34. The unequivocal proof of DNA as the genetic material came from the studies on a

a) Bacterium b) Fungus c) Viroid d) Bacterial virus

35. Common cold is not cured by antibiotics because it is

a) Caused by a virus
b) Caused by gram +ve bacteria
c) Caused by gram -ve bacteria
d) not an infectious disease

36. Which one of the following is not considered as a part of the endomembrane system?

a) Golgi complex b) Peroxisome c) Vacuole d) Lysosome

37. Importance of day length in flowering of plants was first shown in

a) Cotton b) Petunia c) Lemna d) Tobacco

38. Which one of the following is linked to the discovery of "Bordeaux mixture" as a popular fungicide?

a) Loose smut of wheat
b) Black rust of wheat
c) Bacterial leaf blight of Rice
d) Downy midew of grapes

39. Which one of the following is resistant to enzyme action?
a) Pollen exine b) Leaf cuticle c) Cork d) Wood fibre

40. Haploids are more suitable for mutation studies than the diploids. This is because

a) Haploids are more abundant in nature than diploids.
b) All mutations, whether dominant or recessive, are expressed in haploids.
c) Haploids are reproductively more stable than diploids
d) Mutagens penetrate in haploids more effectively than in diploids.

41. Vernalisation stimulates flowering in

a) Zamikand b) Turmeric c) Carrot d) Ginger

42. Plants with ovaries having only one or few ovules, are generally pollinated by

a) bees b) Butterflies c) birds d) wind

43. Mendelian recombinations are due to

a) Crossing - over b) Anaphasic Segregation
c) Mutations d) Synapsis

44. What is it that forms the basis of DNA finger printing?

a) The relative proportion of purines and pyrimidines in DNA
b) The relative difference in the DNA occurrence in blood, skin and saliva.
c) The relative amount of DNA in the ridges and groves of the fingerprints
d) Satellite DNA occurring as highly repeated short DNA segments

45. In a fully turgid cell the value of which of the following is zero?

a) Osmotic potential b) Pressure potential
c) Osmotic pressure d) Water potential

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KEY

1) d	2) a	3) a	4) d	5) d	6) c	7) c	8) d	9) b	10) d
11) c	12) a	13) d	14) a	15) b	16) a	17) d	18) a	19) b	20) a
21) a	22) d	23) b	24) a	25) a	26) c	27) d	28) c	29) d	30) b
31) b	32) b	33) d	34) d	35) a	36) b	37) d	38) d	39) a	40) b
41) c	42) d	43) b	44) d	45) d					