

TEMPLATE

MS Botany Admission Test

Multiple choice questions. Attempt all questions and all questions carry equal marks.

- 1) Which biome will be having richest soil, with nutrients and can be converted into agriculture?
 - a) Deciduous forest
 - b) Tropical rain forest
 - c) Grassland
 - d) Coniferous forest
- 2) Darwin's theory, as presented in "the origin of species", mainly concerned _____
 - a) How new species arise
 - b) The origin of life
 - c) How adaptations evolve
 - d) The genetics of evolution
- 3) How much energy from the sun is trapped by the producers in an ecosystem
 - a) 0.5%
 - b) 1%
 - c) 1.5%
 - d) 2%
- 4) Reversible Inhibitors form weak linkages with the
 - a) Enzyme
 - b) Product
 - c) Enzyme-Substrate complex
 - d) Reactant
- 5) Bryophytes are thought to be evolved from
 - a) Brown algae
 - b) Red algae
 - c) Euglenoids
 - d) Green algae
- 6) _____ are the pores in wood stems and mature roots
 - a) Cracks
 - b) Lenticels
 - c) Stomata
 - d) Hydathodes
- 7) Some monuments like "Taj Mahal" are being eroded due to "stone cancer" by _____
 - a) Acid rain
 - b) Water pollution
 - c) UV radiations
 - d) Climate change
- 8) The decline in thickness of ozone layer is caused by the increase of _____
 - a) Dust pollution
 - b) CO₂ level
 - c) Chlorofluorocarbons
 - d) UV radiations
- 9) Which of the following biome has increased in size due to human activities

- a) Deciduous forest
 - b) Savanna
 - c) Desert
 - d) Grassland
- 10) _____ are called environmental buffers
- a) Forests
 - b) Deserts
 - c) Lakes
 - d) Rivers
- 11) The smallest biological unit that can evolve over time is _____
- a) A particular cell
 - b) An individual organism
 - c) A population
 - d) A specie
- 12) In Sindh the desert ecosystem is called:
- a) Thar
 - b) Thal
 - c) Sahara
 - d) Ghobi
- 13) The bacteria living in the root nodules of the legume plants serve to fix atmospheric:
- a) Hydrogen
 - b) Oxygen
 - c) Nitrogen
 - d) Carbon dioxide
- 14) The grasslands which do not have woody plants are known as:
- a) Prairies
 - b) Pampas
 - c) Savanna
 - d) Steppes
- 15) Green house gasses prevent _____ to escape out from the atmosphere
- a) Light
 - b) pollutants
 - c) UV radiations
 - d) Heat
- 16) The substance used to treat pesticide poisoning is called as _____
- a) Detoxicant
 - b) Anti-poison
 - c) Antitode
 - d) Anti-pseudo
- 17) The mycotoxins are poisonous substance produced by _____
- a) Bacteria
 - b) Plants
 - c) Fungi
 - d) None of the above
- 18) SAR stands for _____

- a) Systemic Acquired Resistant
 - b) Sequence Acquired Resistant
 - c) System Acquired Resistance
 - d) Sequence Acquired Resistance
- 19) Irish famine in potato was caused by _____
- a) Early Blight of Potato
 - b) Late Early Blight of Potato
 - c) Potato Virus Y
 - d) Root Rot of Potato
- 20) _____ are living organisms-based products; when applied, colonize the rhizosphere and promote plant growth.
- a) Bio-pesticides
 - b) Bio-stimulants
 - c) Bio-fertilizers
 - d) Bio-inhibitors
- 21) The high concentration of _____ induces the defoliation and the inhibition of root and stem growth together with premature senescence.
- a) Auxin
 - b) Ethylene
 - c) Methylene
 - d) Both B and C
- 22) Number of Algae particles in the soil usually ranges from _____ per gram of soil.
- a) 10 to 100
 - b) 100 to 10,000
 - c) 100 to 1000
 - d) None of above
- 23) _____ are substances which play significant role in improving plant growth even at low concentrations.
- a) Phytohormones
 - b) Growth hormones
 - c) Alkaloids

d) Organic materials

24) Which type of plant tissue culture involves the regeneration of whole plants from a single plant cell or a small group of cells?

a) Callus culture

b) Organ culture

c) Protoplast culture

d) Micropropagation

25) What is the term for a mass of unorganized plant cells that forms in tissue culture and can be induced to differentiate into various plant parts?

a) Protoplast

b) Organ

c) Callus

d) Explant

26) Which organelle is responsible for the synthesis of ATP in plant cells?

a) Golgi apparatus

b) Chloroplast

c) Mitochondrion

d) Endoplasmic reticulum

27) Aflatoxin is majorly produced by _____

a) *Verticillium* spp.

b) *Rhizoctonia* spp.

c) *Fusarium* spp.

d) *Aspergillus* spp.

28) Which of the following is not a greenhouse gas?

a) Carbon dioxide

b) Methane

c) Oxygen

d) Nitrous oxide

29) What is the main pigment involved in photosynthesis?

- a)Chlorophyll
- b)Carotene
- c)Xanthophyll
- d) Anthocyanin

30) What is the process by which water is lost from a plant to the atmosphere?

- a)Translocation
- b)Transpiration
- c)Respiration
- d)Absorption

31) What is the process of inserting foreign DNA into a plant genome called?

- a)Cloning
- b) Gene splicing
- c)Genetic engineering
- d)PCR

32) Which of the following is used as a vector to introduce new genes into plant cells?

- a)Bacteriophage
- b)Retrovirus
- c)Agrobacterium
- d)Plasmid

33)What does PCR stand for in biotechnology?

- a)Polymerase Chain Reaction
- b)Protein Chain Reaction
- c)Photosynthetic Carbon Reduction

d)Phospho-Carbohydrate Reaction

34) What is the first step in the scientific method?

- a) Experimentation
- b) Hypothesis
- c) Observation
- d) Conclusion

35) What type of variable is manipulated in an experiment?

- a) Dependent variable
- b) Independent variable
- c) Control variable
- d) Random variable

36) Which term describes a group that does not receive the experimental treatment?

- a) Experimental group
- b) Variable group
- c) Control group
- d)Sample group

37) What is a literature review?

- a) A summary of the experimental results
- b) A comprehensive survey of publications on a specific topic
- c) A critical evaluation of an experiment
- d) A brief description of the research hypothesis

38) What is a double-blind study?

- a) An experiment where neither the subjects nor the researchers know who is receiving the treatment
- b) An experiment conducted at two different locations
- c) An experiment with two control groups
- d)An experiment that tests two variables simultaneously

39) Which of the following is a primary function of roots?

- a) Photosynthesis
- b) Support
- c) Absorption of water and minerals
- d) Seed production

40) What type of leaf venation do monocots typically have?

- a) Pinnate
- b) Palmate
- c) Parallel
- d) Reticulate

41) What is the term for the growth region at the tips of roots and shoots?

- a) Meristem
- b) Cambium
- c) Phloem
- d) Xylem

42) What type of tissue is responsible for transporting sugars in plants?

- a) Xylem
- b) Phloem
- c) Epidermis
- d) Parenchyma

43) The common bread wheat is called -----

- a) *Triticum nigra*
- b) *Pisum sativum*
- c) *Oryza sativa*
- d) *Triticum aestivum*

44) Single nucleotide of DNA is comprised of the following parts

- a) Nitrogenous base, ribose sugar and nitrate group
- b) Nitrate base, ribose sugar and nitrate group
- c) Nitrogenous base, deoxyribose sugar and phosphate group
- d) Nitrogenous base, deoxyribose sugar and nitrate group

45) The botanical name of Brinjal is

- a) *Brassica campestris*
- b) *Solanum nigra*
- c) *Solanum melongena*
- d) *Rosa damacena*

46) 9. Now-a-days, a plant named ----- has got popularity as a replacement for sugar due to its very sweet taste

- a) *Brassica campestris*
- b) *Solanum tuberosum*
- c) *Stevia rebaudiana*
- d) *Rosa damacena*

47) 10. The biggest flower on this planet belongs to ----- plant species

- a) *Brassica campestris*
- b) *Rafflesia arnoldii*
- c) *Stevia rebaudiana*
- d) *Mentha piperata*

48) Grasses belong to ----- plant family

- a) Brassicaceae
- b) Solanaceae
- c) Malvaceae
- d) Poaceae

49) Gibberellins can facilitate seed germination due to their influence on

- a) synthesis of abscisic acid
- b) rate of cell division
- c) production of hydrolyzing enzymes
- d) absorption of water through the hard seed coat

50) Cell-wall-less cells are called -----

- a) Protoplasms
- b) Nucleoplasms
- c) Cytoplasms
- d) Protoplasts

51) Which one of the following is not a group of phytochemicals

- a) alkaloids
- b) Flavonoids
- c) saponins
- d) Androecium

52) Which one of the following is botanical name of Garlic

- a) *Lycopersicum esculentum*
- b) *Solanum somniferum*
- c) *Allium sativum*

d) *Solanum tuberosum*

53) Which one of the following is not an alkaloid

- a) Solanine
- b) Morphine
- c) Nicotine
- d) Ethanol

54) Which one of the following does not belong to Poaceae family

- a) *Oryza sativa*
- b) *Pisum sativum*
- c) *Triticum aestivum*
- d) None of the above

55) Which one of the following is not a type of RNA

- a) mRNA
- b) rRNA
- c) tRNA
- d) bRNA

56) Which one of the following is not an antibiotic

- a) Penicillin
- b) Vancomycin
- c) Tetracycline
- d) Batrachospermum

57) Which one of the following is a gymnospermic plant species

- a) *Pisum sativum*
- b) *Rosa indica*
- c) *Brassica campestris*
- d) *Pinus roxburgii*

58) Which one of the following types of carbohydrates can not be hydrolyzed further

- a) Polysaccharides
- b) Monosaccharides
- c) Disaccharides
- d) Proteoglycans

59) Which of the following are the most abundant biomolecules on earth?

- a) Lipids
- b) Proteins
- c) Carbohydrates
- d) Nucleic acids

60) Which of the following are the major functions of Carbohydrates?

- a) Storage

- b) Structural framework
- c) Transport Materials
- d) Both a and b

61) Name the major storage form of carbohydrates in animals.

- a) Starch
- b) Chitin
- c) Glycogen
- d) Cellulose

62) Starch consists of

- a) Branched amylose and branched amylopectin
- b) Unbranched amylose and branched amylopectin
- c) Unbranched amylose and unbranched amylopectin
- d) None of the above

63) Which of the following is an example of a green algae?

- a) Laminaria
- b) Sargassum
- c) Chlamydomonas
- d) Fucus

64) The flexibility in plants is due to a tissue called

- a) Parenchyma
- b) Collenchyma
- c) Sclerenchyma
- d) None of these

65) Sweet potato is an underground structure which stores food. Where is the food prepared in this plant?

- a) Leaves
- b) Fruit
- c) Stem
- d) Root

66) Phomopsis blight occurs in which of the following crops?

- a) Brinjal
- b) Bajra
- c) Sugarcane
- d) Potato

67) Which of the following flowers is unisexual?

- a) Papaya
- b) Sunflower
- c) Hibiscus
- d) Mustard

68) Which of the following is an example of parasitic plants?

- a) Botrychium
- b) Neottia
- c) Monotropa
- d) Rafflesia

69) Which of the following plant follows both autotrophic and heterotrophic modes of nutrition?

- a) Insectivorous
- b) Algae
- c) Fungi
- d) Parasites

70) What causes Loose smut of wheat?

- a) *Ustilago kollerii*
- b) *Ustilago hordei*
- c) *Ustilago tritici*
- d) *Ustilago avenae*

In a family of six members: P, Q, R, S, T, and U, each one is related to the others in a specific way:

- P is the father of R.
- Q is the mother of S.
- R is the brother of S.
- S is the sister of T.
- T is the daughter of U.

Questions and Answers:

71) Who is P's wife?

- a) Q
- b) R
- c) S

d) T

72) How is R related to T?

a) Brother

b) Sister

c) Father

d) Cousin

73) How is Q related to T?

a) Mother

b) Sister

c) Aunt

d) Grandmother

74) Who is the sister of S?

a) P

b) Q

c) R

d) T

75) How is U related to S?

a) Father

b) Mother

c) Grandfather

d) Uncle

Passage

There are three on-off switches on a control panel A, B, and C. They have to be changed from an initial setting to a second setting according to the following

conditions: In case only switch A is the switch on in the initial setting, then turn on switch B.

In case switches A and B are the only switches on in the initial setting, then turn on switch C. In case all the three switches are on initially setting, then turn off the switch C. For any other initial setting, turn on all switches that are off and turn off all switches, if any, that are on.

76) In case switch B is the only switch on in the initial setting, what must be the second setting?

- a) A on, B on, C on.
- b) A on, B on, C off.
- c) A on, B off, C on.
- d) A off, B off, C on.

77) In case all the three switches are on in the second setting, which among the following could have been the initial setting?

- a) A on, B on, C on.
- b) A on, B on, C off.
- c) A on, B off, C on.
- d) A on, B off, C off.

78) In case switch A is off in the second setting, which among the following could have been the initial setting?

- a) A on, B on, C on.
- b) A on, B on, C off.
- c) A on, B off, C on.
- d) A on, B off, C off.

79) In case only switch B is on in the second setting, which among the following could have been the initial setting?

- a) A on, B on, C on.
- b) A on, B off, C on.
- c) A off, B on, C off.
- d) A off, B off, C on.

80) Which among the following initial settings leads to a second setting, where only one switch is off?

- a) A on, B on, C off.
- b) A on, B off, C on.
- c) A off, B on, C on.

d) A off, B on, C off.

81) In case in the initial setting is the switches A and B are on and the switch C is off, then what could be the second setting?

- a) A on, B on, C on.
- b) A on, B off, C on.
- c) A on, B off, C off.
- d) A off, B on, C off.

Question 82

A pesticide producing company states that their unused pesticide that gets dumped does not pose a threat to the aquatic life in the surrounding area. If this is correct, then why have local fish been dying in this region? Due to the fact that the pesticide company is not located in a highly fish-populated area, they implicitly admit that the pesticides they produce are relatively dangerous to the nearby aquatic life.

Of the following statements listed below, which one would be most likely to weaken the argument of the author if it were true?

The possibility of pesticides filtering into the local water region was underestimated in the past.

- a) Funds for environmental company cleanup, which concern waste dumps that are poorly run, are reserved for rural regions only.
- b) It would be pointless to locate chemical dumps where they would be most harmful, unless they can be proven 100-percent safe.
- c) Dumps that are located in areas without large fish populations have fewer government interventions and are also less expensive.
- d) City people are most probable to sue the company if the dumps cause them health problems.

Question 83

China wants to avoid financial collapse of their economy. In order to do this, China must raise their gross national product rate by 33 percent. China's economy is structured so that if the 33 percent increase in GNP is reached, then it is possible for a 50 percent GNP increase.

Of the following statements listed below, which one must be true if it is to be believed that the above statements are also true?

- a) If China's 50 percent increase in GNP is unattainable, then its economy will collapse.
- b) China's GNP will not have a 50 percent increase if its economy falls.
- c) The economy of China will not fall if it can obtain an increased GNP of 50 percent.
- d) A 17 percent GNP increase will be unattainable if China continues to suffer national conflict.

Question 84

Estelle states: When I went fishing the other day, every fish that I caught was a salmon, and every salmon I saw I caught.

Of the following statements listed below, which one can be concluded from the observations of Estelle?

- a) Salmon was the only fish that Estelle saw while she was fishing.
- b) While Estelle was fishing, she caught no fish other than salmon.
- c) In the area that Estelle fished, there were no other fish.
- d) All of the fish that Estelle saw she caught.

Question 85

A rich businessman runs a prosperous company. He is disappointed in his two children, Violet and Hazen, because he believes that neither of them presents the potential of having the ability to take control of his company. He thinks that both of his children lack common sense.

This belief formulates from the opinion that..

- a) Violet and Hazen are ignorant to the experience of controlling the company.
- b) Even a person who is not brilliant can control a company if she or he has been able to obtain an MBA.
- c) In order to run a company, a person needs common sense.
- d) If Hazen showed any sign of common sense, he would have the ability to aid Violet in controlling the company.

Question 86

My family doctor said that he would be performing a blood test on me when I visit him today. I know I will feel pain today.

The above argument depends on which one of these assumptions?

- a) The use of a needle always causes pain in the patient.
- b) The doctor will have a hard time finding the patient's vein.
- c) In the past, this patient has experienced pain at the family doctor.
- d) The needle will leave a bruise.

Questions 87 – 93

Nine individuals: Ahmed, Bilal, Danish, Faisal, Haroon, Liaquat, Maryam, Shiza and Zeeshan are to serve on three committees labeled A, B and C.

- Each candidate should serve on exactly one of the committees
- Every committee must have atleast one member
- Committee A should consist of exactly one member more than that of committee B
- Among Maryam, Shiza and Zeeshan none can serve on committee A
- Among Faisal, Haroon and Liaquat none can serve on committee B
- Among Ahmed, Bilal and Danish none can serve on committee C

QUESTIONS

87. In case Danish and Zeeshan are the individuals serving on committee B, how many of the nine individuals should serve on committee C?

- a) 2
- b) 3
- c) 4
- d) 5

88. Of the nine individuals, the maximum number that can serve together on committee C is

- a) 5
- b) 6
- c) 7
- d) 8

89. In case Ahmed is the only individual serving on committee B, which among the following should serve on committee A?

- a) Bilal and Danish
- b) Bilal and Faisal
- c) Bilal and Liaquat
- d) Faisal and Haroon

90. In case, any of the nine individuals serves on committee C, which among the following could not be the candidate to serve on committee A?

- a) Ahmed
- b) Bilal
- c) Liaquat
- d) Shiza sh and Ha

91. In case, Bilal, Danish and Maryam are the only individuals serving on committee B, the total membership of committee C should be

- a) 5
- b) 4
- c) 3
- d) 2

92. In case, Bilal, Danish and Maryam are the only individuals serving on committee B, then the members of committee C should be

- a) Haroon and Shiza
- b) Maryam and Zeeshan
- c) Shiza and Zeeshan
- d) Faisal and Shiza

93. Among the following combinations which could constitute the membership of committee C?

- a) Danish and Shiza
- b) Faisal and Maryam
- c) Liaquat, Maryam and Shiza
- d) Faisal, Haroon and Liaquat

Question 94-96. Three men (Tom, Peter and Jack) and three women (Eliza, Anne and Karen) are spending a few months at a hillside. They are to stay in a row of nine cottages, each one living in his or her own cottage. There are no others staying in the same row of houses.

- Anne, Tom and Jack do not want to stay in any cottage, which is at the end of the row.
- Eliza and Anne are unwilling to stay besides any occupied cottage.
- Karen is next to Peter and Jack.
- Between Anne and Jack's cottage there is just one vacant house.
- None of the girls occupy adjacent cottages.
- The house occupied by Tom is next to an end cottage.

94. How many of them occupy cottages next to a vacant cottage?

- a) 2
- b) 3
- c) 4
- d) 5

95. Which among these statement(s) are true?

- a) Anne is between Eliza and Jack.
- b) At the most four persons can have occupied cottages on either side of them.
- c) Tom stays besides Peter.
- d) I and III only

96. Which of the above statements can be said to have been derived from two other statements ?

- a) Statement 1
- b) Statement 2
- c) Statement 3
- d) Statement 5

97) Arrange in appropriate sequence: 1. Shoulder 2. Wrist 3. Elbow 4. Palm 5. Finger

- a) 1, 4, 2, 3, 1
- b) 3, 4, 5, 2, 1
- c) 3, 1, 4, 2, 5
- d) 1, 3, 2, 4, 5

98) Which one of the five words below would come first in a dictionary?

- a) Eliminate
- b) Dog
- c) Hen
- d) Parrot

99) We are today living in a _____ world, a world where physical _____ matter little.

- a) blossoming ... engagement
- b) computerized ... deformities
- c) borderless ... distances
- d) developed ... hindrance

100) Sensory cells _____ impulses by producing electrical signals.

- a) responding
- b) to respond
- c) respond to

d) respond

