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ENT - 55

Total No. of Pages : 22

M. Sc. Entrance Examination, 2024
BOTANY
Sub. Code: 58714

Day and Date : Monday, 29-07-2024

Total Marks : 100

Time : 10.30 a.m. to 12.00 noon

Instructions :

- 1) All questions are compulsory.
- 2) Each question carries 1 mark.
- 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
- 4) Follow the instructions given on OMR sheet.
- 5) Rough work shall be done on the sheet provided at the end of question paper.

1. Cytoplasmic inheritance was first reported by.....

- | | |
|------------|------------|
| a) Correns | b) Sutton |
| c) Mendel | d) Johnson |

2. Any change in the nucleotide sequence of the DNA of a gene is called

- | | |
|----------------|-----------------|
| a) a mutation | b) an anticodon |
| c) pericentric | d) Paracentric |

3. Inversion with centromere is called.....

- | | |
|-------------|--------------------|
| a) Acentric | b) Acrocentric |
| c) a codon | d) a translocation |

4. What is the purpose of backcrossing in plant breeding....
 - a) To produce offspring with desirable traits
 - b) To introduce genetic variation
 - c) To improve the quality of the parent plant
 - d) To increase the yield of the parent plant
5. When two or more genes interact to control a single trait, it is called.....
 - a) Epistasis
 - b) Pleiotropy
 - c) Co-dominance
 - d) dominance
6. The virus-mediated bacterial recombination is known as
 - a) Transduction
 - b) Conjugation
 - c) Transformation
 - d) Recombination
7. Bacterial transformation was discovered by
 - a) Leaderberg and Tatum
 - b) Beadle and Tatum
 - c) Griffith
 - d) Zinder
8. Transformation mechanism of recombination in bacteria is discovered by.....
 - a) Tatum
 - b) Zinder
 - c) F. Griffith
 - d) Lederberg and Tatum

9. Fermentation is a Process
 - a) Physiological
 - b) Biological
 - c) Chemical
 - d) Physical
10. Penicillin is commercially produced by
 - a) *P. notatum*
 - b) *P. citrinum*
 - c) *P. chrysogenum*
 - d) *P. roqueforti*
11. Zymase is obtained from
 - a) *Saccharomyces ludwigi*
 - b) *Saccharomyces cerevisiae*
 - c) *Saccharomyces boulardii*
 - d) *Saccharomyces crusiana*
12. Plant diseases caused by non-living agents are called as
 - a) Biotic diseases
 - b) Abiotic diseases
 - c) Non-infectious diseases
 - d) Infectious diseases
13. Whip Smut of Sugarcane is caused by
 - a) Bacteria
 - b) Virus
 - c) Fungi
 - d) mycoplasma

14. Damping off is a
- a) Soil borne fungal disease
 - b) Bacterial diseases
 - c) air born fungal diseases
 - d) viral diseases
15. Mushrooms are rich in
- a) Proteins
 - b) lipids
 - c) carbohydrates
 - d) Minerals
16. Pleurotusajor-caju grows on materials.
- a) Lignin cellulosic
 - b) tannin
 - c) fibres
 - d) chitinous
17. Nucleoid is present in.....
- a) virus
 - b) algae
 - c) bryophyte
 - d) bacteria
18. True nucleus is present in
- a) bacteria
 - b) virus
 - c) mitochondria
 - d) eukaryotes
19. Mitosis is also called as cell division
- a) reductional
 - b) equational
 - c) parallel
 - d) periclinal

20) Meiosis is also called as cell division

- a) reductional b) equational
- c) parallel c) periclinal

21) Chromosomes are present on middle line in

- a) prophase b) anaphase
c) metaphase d) telophase

22) Karyokinesis is division of

- a) mitochondria b) chloroplast
- c) cytoplasm d) nucleus

23) are called power house of cell

- a) nucleus b) lysosome
- c) ribosome d) mitochondria

24) is the site of photosynthesis in cell of green plants.

- a) amyloplast b) Chloroplast
c) tonoplast d) leucoplast

24) are important in protein synthesis.

- a) nucleus
- b) lysosome
- c) ribosome
- d) mitochondria

26) Eukaryotic cells contains ribosomes.

- [illegible]

27) is mostly cultivated by shoot suckers.

- A) Rose B) Marigold
- C) Gerbera D) Jasmine

28) Flowers with long stock are called as

- A) loose flowers B) cut flowers
- C) cut greens D) dried flowers

29) used for preparation of perfumes in perfumery.

- A) Gerbera B) Rose
- C) Marigold D) Catharanthus

30) Propagation of plants through seeds is referred as method of reproduction.

- A) asexual B) sexual
- C) vegetative D) parthenocarpic

31) species of marigold is commonly cultivated in India.

- A) *Tagetus indica* B) *Tagetus erecta*
C) *Tagetus africana* D) *Tagetus australis*

32) Nursery is a place where plants are grown for

- A) selling
- B) multiplication only
- D) beautification
- C) ornamental purpose

33) Carrot is a rich source of Vitamin

- A) A
- B) B
- C) C
- D) D

34) Brindavan garden is situated on the river

- A) Ganga
- B) Krishna
- C) Kaveri
- D) Yamuna

35) Floribanda' is a variety of

- A) Rose
- B) Marigold
- C) Gerbera
- D) Jasmine

36) is commonly used in hanging basket.

- A) Clerodendrum sp.
- B) Begonia sp.
- C) Antigonon leptopus
- D) Ipomoea palmata

37) The general chemical formula of carbohydrate is

- a) $C_n H_{2n} O$
- b) $(CH_2O)_n$
- c) $(CHO)_n$
- d) $(CH_2O)_n$

38) Which of the following is ketotriose

- a) Glyceraldehyde b) Dihydroxyacetone
- c) Ribulose d) Erythrose

39) The glucosidic linkage between glucose molecule of sucrose is

- a) α 1-4 b) β 1-4
- c) α 1-2 d) β 1-6

40) Which of following is homopolysaccharide

- a) cellulose b) Starch
- c) glycogen d) all of above

41) The number of isomer in glucose are

- a) 6 b) 8
- c) 12 d) 16

42) Mutarotation refers to change in

- a) Optical rotation
- b) pH
- c) Conductance
- d) Chemical properties.

43) Which of following is non reducing sugar

- a) Sucrose b) Agar
- c) Isomaltose d) Trehalose

44) Sucrose consists of

- a) Glucose + glucose
- b) Glucose + fructose
- c) Glucose + galactose
- d) Glucose + manose

45) Epimers of glucose is

- a) Fructose
- b) galactose
- c) ribose
- d) deoxyribose

46) All protein contain the

- a) Same 20 amino acids
- b) different amino acids
- c) 300 amino acids occur in nature
- d) only few amino acids

47) Zhukovsky proposed megacenters or regions for diversity of cultivated plants.

- a)10
- b)11
- c) 12
- d)13

48) Triticum aestivum belongs to family

- a) Poaceae
- b) apocynaceae
- c) cyperaceae
- d) fabaceae

- 49) Centre of origin of soyabean is
- a) India
 - b) East Asia China
 - c) America
 - d) Australia two
- 50) Term bioinformatics was coined by to describe "the study of informatic processes in biotic systems
- a) Watson
 - b) T.H.Morgan
 - c) Koelreuter
 - d) Paulien Hogeweg and Ben Hesper
- 51) T-Test is defined as the ratio of difference betweenmeans and standard error of difference between two means.
- a) five
 - b) four
 - c) two
 - d) three
- 52) part of Syzigium aromaticum is used
- a) opened flower bud.
 - b) fresh unopened flower bud.
 - c) Dried unopened flower bud.
 - d) fruit

53) In Piper nigrum major compound is present

- a) pyrol b) pyroline
c) piperol d) piperidines

54) In *Gossypium* sp..... type of fruit is present

- a) berry b) loculicidal capsule
c) pepo d) pod

55) The person who collects the data for statistical investigation is called as.....

- a) collector b) investigator
c) supervisor d) breeder

56) The number of items which belongs to same class called as

- a) frequency b) class frequency
c) class limit d) mid point

57) External as well as internal structures present in..... type of fossil.

- a) Impression b) Petrification
c) Nodule d) Pith cast

58) Cupulate seeds of *Lyginopteris* are known as

- a) Spenopteris
- b) Enigmocarpon
- c) Telangium
- d) Laginostoma

- 59) Carbon dating method for determining age of fossil is based on.....
- a) physical activity
 - b) chemical activity
 - c) biological activity
 - d) radioactivity
- 60)fossils are just show impressions of plants or plant parts on sediments.
- a) Impression
 - b) Compression
 - c) Amber
 - d) Petrification
- 61) In naming a form genus of fossil.....suffix is applied to a stem genus.
- a) -dendron
 - b) -phyllum
 - c) -xylon
 - d) -strobilus
- 62) pBR322 is a used as
- a) molecular probe
 - b) Karyotype dye
 - c) Resistant marker
 - d) Vector
- 63) Topoisomerase is involved in
- a. producing RNA primer
 - b. secretion of DNA strand
 - c. producing nick in DNA
 - d. T-RNA

- 64) A plasmid is.....
- a. is a circular DNA
 - b. always contains an origin of replication
 - c. usually contains one or more restriction sites
 - d. all of the above
- 65)enzymes are molecular scissors.
- a. Restriction endonuclease
 - b. Reverse transcriptase
 - c. DNA polymerase
 - d. RNA polymerase
- 66) Azotobacter strains are sold under the name
- a) Azotomycin
 - b) Azotobacterian
 - c) Azocyanin
 - d) Azostrepsin
- 67) Nitrogen fixing BGA fix the atmospheric nitrogen with the help of
- a) Oidea
 - b) Heterocyst
 - c) Chlamydospores
 - d) Sericulture
- 68) worm-farming" means
- a) apiculture
 - b) fishery
 - c) Vermiculture.
 - d) akinets

69) Vesicular-arbuscular mycorrhiza (VAM) is formed by the symbiotic association between certain phycomycetous fungi and.....roots.

- a) Angiospermic b) Petridophytes
c) Agae d) Bryophytes

70) Trichoderma is a ecofriendly fertilizer.

- a) Fungal b) Bacterial
- c) viral d) Algal

71) In Type of Classification, the drugs are arranged according to the morphological or external characters of the plant parts or animal parts.

- a) Morphological b) Anotomical
c) taxonomical d) Chemical.

72) The drug which is obtained from the plants, animals and Bacteria or any natural resources to cure the diseases in the humans and animals are called.....

- a) Modified drugs b) Crude drugs
- c) synthetic drugs d) all of the above

73) *Zingiber officinale* is the Botanical name of the

- A) Heena B) Adrak.
- C) Pumpkin D) Amala

74). The main chemical constituent of *Zingiber officinale* is

- A) Ascorbic acid
- B) Butanol
- C) zinzanol
- D) Fumaric acid

75) helps to improve immunity in the humans.

- A) *Tridax* Sp.
- B) *Argemone* sp.
- C) *Parthenium* sp.
- D) *Emblica* sp.

76. The term alternation of generation was first used by

- a) Halfmeister
- b) Iyengar
- c) Linnaeus
- d) T. Cooke

77) is more primitive type of sexual reproduction.

- a) Oogamy
- b) Anisogamy
- c) Isogamy
- d) parthenocarpy

78) In *Anthoceros* fertilization is

- a) Oogamous
- b) isogamous
- c) anisogamous
- d) parthenocarpy

79. Hornworts is the common term used for members of

- a) mosses
- b) anthocerotopsida
- c) bryopsida
- d) psilophyta

80. Naked ovules are present in

- a) Pteridophytes b) Angiosperms
c) Gymnosperms d) Bryophytes

81. Somatic body of the fungi is made up ofwhich constitute mycelium.

- a) Spore b) hyphae
- c) septa d) conidiophores

82. Sporangiospores in *Mucor* are

- a) triploid b) haploid
c) diploid d) tetraploid

83. Pomegranate blight is.....disease.

- a) viral b) fungal
- c) bacterial d) mycoplasmal

84. The members of cyanophyta are commonly called as

- Green algae
- Blue green algae
- Red algae
- Brown algae

85. The naked single stranded RNAs are known as

- a) Satellites b) Viroids
c) Prions d) Capsid

86. Indian father of angiosperm embryology

- | | |
|------------------|----------------------|
| a) P. Maheshwari | b) M. S, Swaminathan |
| c) B. G. Swami | d) Lakshmanan |

87. Embryo sac of angiosperm is

- a) 8- nucleated, 7- celled
- b) 8- nucleated, 7- celled
- c) 8- nucleated, 8- celled
- d) 7-nucleated, 7- celled

88. Flowers pollinated by bats is called as

- | | |
|--------------------|-----------------|
| a) Malacophily | b) ornithophily |
| c) chiropterophily | d) zoophily |

89. Four radial vascular bundle are found in.....

- | | |
|---------------|------------------|
| a) dicot root | b) monocot root |
| c) dicot stem | d) monocot stem. |

90. Companion cells are found in.....

- | | |
|------------|---------------|
| a) Xylem | b) phloem |
| c) stomata | d) endodermis |

91. Safranin stains.....

- | | |
|-----------------------|--------------------|
| a) thick walled cells | b) living cells |
| c) suberized cells | d) lignified cells |

92. The first CO_2 acceptor in C_3 plant is
- a) Phosphoenol pyruvic acid
 - b) Ribulose diphosphate
 - c) Oxalo acetic acid
 - d) Phosphoglyceric acid
93. Sugarcane shows high efficiency of CO_2 fixation because it performs
- a) Calvin cycle
 - b) HSK pathway
 - c) TCA cycle
 - d) C_5 cycle
94. Donnan equilibrium is.....uptake of mineral.
- a) Active
 - b) Passive
 - c) Positive
 - d) Negative
95.are micronutrients to the plants.
- a) Fe and Mn
 - b) Ca and K
 - c) P and K
 - d) C and O
96. What is the expected phenotype ratio of a dihybrid cross between two heterozygous pea plants.....
- a) 9:3:3:1
 - b) 1:2:1
 - c) 3:1
 - d) 1:1

97. Kernel colour in wheat is controlled by

- a) Autogenes b) Plasmagenes
c) Plastogenes d) Polygenes

98. Plastid inheritance studied in..... plant.

- a) *Bougainvillea spectabilis*
- b) *Datura alba*
- c) *Mirabilis jalapa*
- d) *Pisum sativum*

99.is Hardy-Weinberg equation for equilibrium.

- a) $p^2 + pq + q = 1$
b) $p^2 + 2pq + q^2 - 1$
c) $p + 2pq + q - 1$
d) $p + pq + q = 1$

100. A condition in which the organisms have more than two complete sets of chromosomes is called..

- a) Anueploidy b) Haploids
- c) Polyploidy d) None of these



- Rough Work -

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