

Seat No.	
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P.G. Entrance Examination, June - 2022**M.Sc. BOTANY****Sub. Code : 58714****Day and Date : Saturday, 11/06/2022****Total Marks : 100****Time : 03.30 p.m. to 05.00 p.m.**

- 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) Selaginella is commonly called _____ moss
(A) spike or club (B) horsetail
(C) thalloid (D) lycopod
- 2) There are _____ types of patents.
(A) four (B) five
(C) three (D) two
- 3) Botanical name of the Reetha is _____
(A) Sapindus laurifolius (B) Mangifera indica
(C) Bixa orellana (D) Anacardium occidentale
- 4) Spectrophotometer measures the _____
(A) transmittance and reflectance (B) absorbance and reflectance
(C) only reflectance (D) only absorbance

P.T.O.

- 5) _____ discovered the test for locating DNA in the cell.
- (A) L. Pauling (B) P. Mitscher
(C) H. Temin (D) A. Feulgen
- 6) _____ is obtained from *Abies balsamea*.
- (A) Resin (B) Canada balsam
(C) Latex (D) Oil
- 7) Krebs cycle is also called as _____
- (A) Citric acid cycle (B) Glycolate cycle
(C) EMP pathway (D) Glyoxylate pathway
- 8) Generally trimerous flowers are present in the members of _____ family.
- (A) Liliaceae (B) Nyctaginaceae
(C) Solanaceae (D) Caesalpiniaceae
- 9) _____ species of marigold is commonly cultivated in India.
- (A) *Tagetes australis* (B) *Tagetes africana*
(C) *Tagetes robusta* (D) *Tagetes erecta*
- 10) Flowers without long stock are called as _____
- (A) cut greens (B) cut flowers
(C) loose flowers (D) dried flowers

- 11) _____ are small areas between the pathway and lawns.
- (A) Arches (B) Edges
(C) Avenue (D) Hedges
- 12) During souring of milk lactose is converted into _____.
- (A) Lactic acid (B) Succinic acid
(C) Malic acid (D) Citric acid
- 13) Cytoplasmic inheritance is always associated with _____ parent.
- (A) male (B) female
(C) sterile (D) both male and female
- 14) _____ is the storage form of glucose in plants.
- (A) Dextrin (B) Cellulose
(C) Starch (D) Glycogen
- 15) Human genome contains about _____
- (A) 2 billion base pairs (B) 3 billion base pairs
(C) 4 billion base pairs (D) 5 billion base pairs
- 16) NCBI stands for _____
- (A) National Center for Biotechnological Information
(B) National Center for Biochemical Information
(C) National Center for Biology Information
(D) National Center for Biological Information

- 17) _____ is the example of dye yielding plants.
- (A) *Curcuma longa* (B) *Musa acuminata*
(C) *Zea mays* (D) *Calotropis procera*
- 18) *Cajanus cajan* is the Botanical name of _____
- (A) Pigeon pea (B) Groundnut
(C) Maize (D) Wheat
- 19) A common example of stem tuber is _____
- (A) Ginger (B) Garlic
(C) Onion (D) Potato
- 20) Green manure plants used by farmers mainly belong to _____
- (A) Compositae (B) Leguminosae/ Fabaceae
(C) Solanaceae (D) Poaceae
- 21) Which of the following DNA technology is used for the amplification of DNA in vitro?
- (A) Polymerase Chain Reaction (B) Restriction Analysis
(C) Northern blot (D) Southern blot
- 22) The blotting technique which is used to detect the RNA in a sample is _____
- (A) Southern blotting (B) Eastern blotting
(C) Northern blotting (D) Western blotting

23) The unwinding and separation of DNA strand achieved with the help of enzymes _____

- | | |
|-------------------|-----------------|
| (A) Topoisomerase | (B) Ligase |
| (C) Amylase | (D) Nitrogenase |

24) The genes governing cytoplasmic inheritance are called _____

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|-----------------------|------------------|
| (A) Cytoplasmic genes | (B) Cytogenes |
| (C) Plasma genes | (D) All of these |

25) Topoisomerase is involved in _____

- | | |
|---------------------------|-----------------------------|
| (A) producing RNA primer | (B) secretion of DNA strand |
| (C) producing nick in DNA | (D) T- RNA |

26) Analyzing or comparing entire genome of species _____

- | | |
|--------------------|----------------------|
| (A) Bioinformatics | (B) Genomics |
| (C) Proteomics | (D) Pharmacogenomics |

27) A phylogenetic tree also known as _____

- (A) phylogeny
- (B) evolutionary tree
- (C) Both phylogeny and evolutionary tree
- (D) Inferred tree

- 28) Cosmid vectors are used for _____
(A) cloning small fragments of DNA (B) cloning large fragments of DNA
(C) cloning prokaryotic DNA only (D) cloning eukaryotic DNA only
- 29) Southern Blot is used to detect _____
(A) DNA (B) RNA
(C) Proteins (D) Carbohydrates
- 30) Heterocyst of _____ shows daughter colonies.
(A) Nostoc (B) Anabaena
(C) Vaucheria (D) Volvox
- 31) Heterocyst of _____ shows daughter colonies.
(A) Nostoc (B) Anabaena
(C) Vaucheria (D) Volvox
- 32) In Crucifer type of embryogenesis basal cell has _____
(A) role in development of radicle (B) role in development of plumule
(C) role in development of haustoria (D) no any role
- 33) _____ cells plays important role as food material supplement to sporogenous tissue
(A) Tapetum (B) Endothecium
(C) Connective tissue (D) Epidermal

- 34) In plants photoperiodic stimulus is received by _____
(A) Root (B) Stem
(C) Leaf (D) Flower
- 35) A statistical method for analysis of quantitative inheritance was suggested by _____
(A) Nilson Ehle and East (B) T. H. Morgan
(C) Mather (D) Mendel
- 36) Cabbage is an example _____ plant.
(A) SDP (B) DNP
(C) PNP (D) LDP
- 37) A recessive allele is expressed in _____
(A) heterozygous condition only
(B) both homozygous and heterozygous condition
(C) homozygous condition only
(D) F₃ generation
- 38) Gregor Mendel used _____ plant for his hybridization experiments.
(A) Maize (B) Garden pea
(C) Chick pea (D) Pigeon pea
- 39) The ratio of Supplementary gene interaction is _____
(A) 1:1:1:1 (B) 9:3:4
(C) 9:7 (D) 13:3

- 40) The number of linkage groups in an organism is equal to _____ number of chromosome of that species.
- (A) Diploid (B) Tetraploid
(C) Polyploid (D) Haplod
- 41) *Pleurotus sajor-caju* is an excellent mushroom for cultivation due to its _____
- (A) Flavour and texture B (B) Colour and texture
(C) Texture and habit (D) Flavour and colour
- 42) The hyaline ground substance present in cell is called _____
- (A) cytosol (B) storage pool
(C) metabolic pool (D) water vacuole
- 43) The ability of lenses to distinguish between two particles situated very close to each other is called _____
- (A) magnification power
(B) resolving power
(C) distinguishing power
(D) analytical power
- 44) Fluorescent dye Acridine orange gives _____ fluorescence for DNA.
- (A) red (B) yellow
(C) green (D) violet

- 45) _____ is mostly cultivated on large scale in the Polyhouse.
- (A) Gerbera (B) Rose
(C) Marigold (D) Chrysanthemum
- 46) The genomic formula of trisomy is _____
- (A) $2n - 1$ (B) $n + 1$
(C) $2n + 1$ (D) $2n - 2$
- 47) _____ is mostly cultivated by shoot suckers.
- (A) Gerbera (B) Jasmine
(C) Marigold (D) Rose
- 48) Mughal garden is situated at _____.
- (A) Kolkatta (B) Lucknow
(C) Mysore (D) Delhi
- 49) Propagation of plants through seeds is referred as _____ method of reproduction.
- (A) vegetative (B) parthenocarpic
(C) sexual (D) asexual
- 50) In Latin 'Hortus' means _____.
- (A) cultivation (B) pot herb
(C) ornamental (D) garden

- 51) African Daisy is common name for _____
(A) Gerbera (B) Jasmine
(C) Marigold (D) Rose
- 52) _____ is an example of oligosaccharides.
(A) Sucrose (B) Starch
(C) Cellulose (D) Glucose
- 53) Lactose is made up of one _____ and one Galactose unit linked by β 1, 4 linkage
(A) Erythrose (B) Glucose
(C) Xylulose (D) Mannose
- 54) Which of the following DNA technology is used for the amplification of DNA in vitro?
(A) Restriction Analysis (B) Northern blot
(C) Southern blot (D) Polymerase Chain Reaction
- 55) The blotting technique which is used to detect the RNA in a sample is _____
(A) Southern blotting (B) Western blotting
(C) Northern blotting (D) Eastern blotting
- 56) The unwinding and separation of DNA strand achieved with the help of enzymes _____
(A) Ligase (B) Topoisomerase
(C) Amylase (D) Nitrogenase

- 57) Czapek Dox agar medium is a type of _____ medium.
- (A) Differential (B) Synthetic
(C) Semi synthetic (D) Natural
- 58) The term Bioinformatics was coined by _____.
- (A) J. D. Watson (B) Pauline Hogeweg
(C) Margaret Dayhoff (D) Frederic Sanger
- 59) The _____ is a global network of computer networks that links
- (A) FTP (B) Gmail
(C) Telenet (D) Internet
- 60) Following _____ plant commonly used as a cleansing agents for hairs
- (A) *Sonneratia apetala* (B) *Boerhaavia diffusa*
(C) *Tridax procumbens* (D) *Sapindus laurifolius*
- 61) Following _____ is a hair dye yielding plant
- (A) *Lawsonia inermis* (B) *Annona squamosa*
(C) *Hibiscus esculentus* (D) *Cocos nucifera*
- 62) Plant *Lawsonia inermis*, also known as _____
- (A) Katemat (B) Shendri
(C) Soap nut (D) Heena Tree

- 63) *Withania somnifera* is an example of _____ family.
- (A) *Caesalpiniaceae* (B) *Nyctaginaceae*
(C) *Liliaceae* (D) *Solanaceae*
- 64) _____ causes citrus canker.
- (A) *Xanthomonas citri* (B) *Xanthomonas malvacearum*
(C) *Erwinia amylovera* (D) *Vibriosp*
- 65) Leguminous plants fix atmospheric nitrogen with the help of root nodule bacterium like _____
- (A) *Rhizobium* (B) *Lactobacillus*
(C) *Clostridium* (D) *Micrococcus*
- 66) In red algae the pigments present are Phycocyanin, Allophycocyanin, Chl-a, chl-d. Phycoerythrin and the red colour is due to abundant _____
- (A) Phycocyanin (B) Phycoerythrin
(C) Chl.-a (D) Chl.-b
- 67) Young stem of *Gnetum* shows _____ type of vascular bundles.
- (A) open, conjoint, collateral
(B) open, conjoint, parallel
(C) open, separate, parallel
(D) closed, conjoint, parallel

68) _____ is a bio-pesticide.

- | | |
|---------------|--------------------|
| (A) DDT | (B) Bavistin |
| (C) Nimbidine | (D) Sulphur powder |

69) _____ are considered as plant amphibians

- | | |
|----------------|-----------------|
| (A) Fungi | (B) Algae |
| (C) Bryophytes | (D) Angiosperms |

70) Embryo sac of angiosperm is _____

- | | |
|----------------------------|----------------------------|
| (A) 8- nucleated, 7-celled | (B) 7- nucleated, 8-celled |
| (C) 8- nucleated, 8-celled | (D) 7- nucleated, 7-celled |

71) Heterocysts are present in _____

- | | |
|------------|-------------------|
| (A) Nostoc | (B) Oedogonium |
| (C) Chara | (D) None of these |

72) Organisation of stem apex into corpus and tunica is determined mainly by _____

- | | |
|--------------------------------------|------------------------------|
| (A) regions of meristematic activity | (B) rate of shoot tip growth |
| (C) planes of cell division | (D) rate of cell growth |

73) Four radial vascular bundle are found in _____

- | | |
|------------------|----------------|
| (A) monocot stem | (B) dicot stem |
| (C) monocot root | (D) dicot root |

- 74) Cytoplasmic inheritance in *Mirabilis jalapa* is controlled by _____
- (A) Plastids (B) Nucleus
(C) Ribosomes (D) Mitochondria
- 75) Inheritance of Kernel colour in wheat is an example of _____
- (A) Monogenic inheritance (B) Co-dominance
(C) Mendelian inheritance (D) Polygene inheritance
- 76) The virus mediated bacterial recombination is known as _____
- (A) Transduction (B) Conjugation
(C) Transformation (D) Recombination
- 77) Tobacco virus transmits through _____
- (A) Aphids (B) Tree hopper
(C) White flies (D) Leaf hopper
- 78) _____ a species of mushroom yields yellow dye.
- (A) *Agaricus bisporus* (B) *Amarina muscaria*
(C) *Fomes ignarius* (D) *Polyporus sulphurus*
- 79) _____ decompose quickly and are environment friendly.
- (A) Weedicides (B) Biopesticides
(C) Nematicides (D) Herbicides

- 80) A causal organism of White rust of Crucifer is _____
- (A) *Albugo candida* (B) *Cercospora arachidicola*
(C) *Spacillotheca sorghi* (D) *Puccinia tritica*
- 81) Mushrooms are rich in _____
- (A) Proteins (B) Lipids
(C) Carbohydrates (D) Minerals
- 82) The term 'mitosis' coined by _____
- (A) W. Fleming (B) Strasburg
(C) Van Mohl (D) Schleicher
- 83) Fluid-mosaic model of cell membrane was described by _____
- (A) Robertson (B) Danielli-Davson
(C) Singer-Nicholson (D) Robertson-Davson
- 84) _____ cell organelles plays important role in cellular transport.
- (A) Golgi complex (B) Ribosomes
(C) Lysosomes (D) Ectoplasm
- 85) _____ type of microscope is used for study of surface architecture of biological specimen.
- (A) Transmission electron microscope (TEM)
(B) Scanning electron microscope (SEM)
(C) Phase contrast microscope (PCM)
(D) Fluorescent microscope

- 86) In electron microscope lenses are _____
- (A) electromagnetic (B) glass lenses
(C) graphite lenses (D) quartz lenses
- 87) _____ soil is most suitable for nursery.
- (A) Loamy ad sandy (B) Lateritic
(C) Black cotton (D) Rocky
- 88) Anticodon is located on _____
- (A) m - RNA (B) DNA
(C) t - RNA (D) r-RNA
- 89) _____ is an essential unsaturated fatty acid.
- (A) Palmitic (B) Oleic
(C) Stearic (D) Linolenic
- 90) Pleurotus sp. is locally known as _____
- (A) Dhingri (B) Dongari
(C) Wood rot (D) Murabba
- 91) _____ is an example of oligosaccharides.
- (A) Sucrose (B) Glucose
(C) Starch (D) Cellulose

92) _____ is not digested by the digestive enzymes of man and therefore forms the bulk or roughage of food.

- | | |
|---------------|-------------|
| (A) Lipid | (B) Starch |
| (C) Cellulose | (D) Protein |

93) _____ is an oligosaccharide linked to protein.

- | | |
|------------------|-----------------|
| (A) Glycoprotein | (B) Galactoside |
| (C) Glycolipid | (D) Ganglioside |

94) Left handed DNA is called as _____

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|------------|------------|
| (A) B- DNA | (B) C-DNA |
| (C) A-DNA | (D) Z- DNA |

95) The major tropical cereal crop of the world is _____

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|-----------|-----------|
| (A) Rice | (B) Maize |
| (C) Jawar | (D) Bajra |

96) 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

- 97) The identification of drugs through genomic study_____
- (A) Genomics (B) Cheminformatics
(C) Pharmagenomics (D) Pharmacogenetics
- 98) Basic Local Alignment Search Tool is known as _____
- (A) BLASST (B) BLST
(C) BLAST (D) BLASTK
- 99) The _____ of *Acacia concinna* used in the preparation of herbal Shampoo A
- (A) Dry Fruits (B) Dry leaves
(C) Roots (D) Flowers
- 100) Shikakai is rich in _____
- (A) Vitamin B1 (thiamine) (B) Vitamin C and D, E and K
(C) Vitamin B2 (riboflavin) (D) Vitamin B3(niacin)



Rough Work

Rough Work