No. of Pages. 16

Code No.	Y – 3070

Register Number :

Name :

Time : 2 Hours

Max.Marks : 100

Entrance Examination for Admission to Four Year Under Graduate Degree Programmes in the Teaching Departments, 2026

CSS

BIOLOGY

GENERAL INSTRUCTIONS

1. The Question Paper is having 100 Objective Questions, each carrying one mark.
2. The answers are to be marked **only** in the "**OMR Sheet**" provided.
3. **Negative marking** : **0.25 marks** will be deducted for each wrong answer .

INSTRUCTIONS FOR FILLING THE OMR SHEET

- The OMR sheet should not be folded or crushed.
- Use only blue/black ball point pen to fill the circles.
- Use of pencil is strictly prohibited.
- Circles should be darkened completely and properly.
- Cutting and erasing on this sheet is not allowed.
- Do not leave any stray marks on the sheet.
- Do not use marker or white fluid to hide the mark.
- WRONG METHODS

CORRECT METHOD

Choose appropriate answer from the options in the questions.

(100 × 1 = 100 marks)

1. ———————— proposed the five-kingdom classification.
   A. Carolus Linnaeus
   B. R.H. Whittaker
   C. Carl Woese
   D. Aristotle

2. ———————— is a prominent lichen from which a purple-red stain, orcein is obtained.
   A. Usnea longissima
   B. Parmelia squarrosa
   C. Cladonia coccifera
   D. Roccella tinctoria

3. ———————— is a lethal viroid that causes a fatal disease in coconut trees.
   A. CCCVd
   B. CSVd
   C. CEVd
   D. CLVd

4. ———————— is an algae that is used in space travel as protein rich food.

A. Chlorella vulgaris
B. Porphyra tenera
C. Laminaria japonica
D. Chondrus crispus

5. A bryophyte that has a pseudopodium is ————————.

A. Funaria
B. Marchantia
C. Sphagnum
D. Anthoceros

6. ———————— is primarily known as the resurrection plant.

A. Selaginella lepidophylla
B. Nephrolepis exaltata
C. Adiantum pedatum
D. Asplenium nidus

7. ———————— is a gymnosperm that have winged pollen grains.

A. Cycas
B. Ephedra
C. Ginkgo
D. Pinus

8. Which feature of Angiosperms provide several key evolutionary advantages to land plants?

A. Reticulate Leaf Venation
B. Angiospermy
C. Vessels and Companion Cells in Vascular Tissue
D. Highly Reduced Gametophytes

9. The most characteristic morphological feature of the Solanaceae family that is unique is

A. Oblique position of the bicarpellary gynoecium
B. Pentamerous and Gamopetalous flower structure
C. Androecium consisting of epipetalous Stamens
D. Vegetative Habit and the persistent Calyx

10. C4 plants display a specialized leaf anatomy known ————————.

A. Dorsiventral Anatomy
B. Isobilateral Anatomy
C. Kranz anatomy
D. None of the above

11. Which among the following is NOT a characteristic feature of Monocot plants?
    A. Scattered vascular bundles in the stem
    B. Cambium causing secondary growth
    C. Parallel venation in leaves
    D. Fibrous root systems

12. Which of the following organisms lacks a membrane-bound nucleus?
    A. Archaea and Eubacteria
    B. Fungi and plants
    C. Plants and eubacteria
    D. Archaea and plants

13. Which among the following is NOT an autonomous eukaryotic organelle?
    A. Mitochondria
    B. Plastid
    C. Hydrogenosomes
    D. Peroxisomes

14. Which is the novel 4^{th} component of the eukaryotic cytoskeleton?
    A. Vimentins
    B. Septins
    C. Actin
    D. Tubulin

15. The cell cycle is controlled by a surveillance system of ————————.
    A. Wee1 and Plk1
    B. Cdks and cyclins
    C. BUBR1 and BUB3
    D. Cdks and SCF

16. Closed mitosis is found in ————————.
    A. Fungi and many protists
    B. Bacteria and algae
    C. Bryophytes and Pteridophytes
    D. Pteridophytes and Gymnosperms

17. ———————— is the equational division in meiosis.
    A. Meiosis I
    B. Meiosis II
    C. Cytokinesis
    D. S-phase

18. ———————— is widely considered as the most abundant protein on Earth.
    A. Rubisco
    B. Ch1-binding proteins
    C. LHC proteins
    D. One-Helix Proteins

19. CAB proteins are predominantly found on the ————————.
    A. Chloroplast outer membrane
    B. Chloroplast inner membrane
    C. Chloroplast thylakoid membrane
    D. Stroma

20. During the light-dependent reactions of photosynthesis, the transfer of 12 electrons typically generates approximately ————————
    A. 3 to 6 ATP molecules
    B. 6 to 9 ATP molecules
    C. 4 to 7 ATP molecules
    D. 5 to 8 ATP molecules

21. The TCA cycle is called ———————— pathway.
    A. Anabolic
    B. Catabolic
    C. Amphibolic
    D. Anaplerotic

22. Respiration in plants takes place in all living cells, primarily within the ————————.
    A. Nucleus
    B. Mitochondria
    C. Plastid
    D. Ribosome

23. ———————— is generally considered the most critical factor for successful seed germination.
    A. Water
    B. Air
    C. Soil
    D. Temperature

24. Which plant growth regulator plays an important role in seed development, maturation and dormancy?
    A. Auxin
    B. Abscisic acid
    C. Gibberellins
    D. Cytokinins

25. Formation of secondary xylem and secondary phloem from the vascular cambium are examples of ————————.
    A. Differentiation
    B. Dedifferentiation
    C. Redifferentiation
    D. Regeneration

26. Human-induced or artificial or manual or mechanical pollination is called ————————.
    A. Anemophily
    B. Malacophily
    C. Anthropophily
    D. Chiropterophily

27. ———————— is considered the most advanced outbreeding device.

A. Self-incompatibility
B. Dichogamy
C. Herkogamy
D. Heterostyly

28. ———————— is a fruit developed by natural parthenocarpy.

A. Watermelon
B. Apple
C. Banana
D. Mango

29. Ballistic self-dispersal by the explosive shattering of fruits is called ————————.

A. Hydrochory
B. Anemochory
C. Zoochory
D. Autochory

30. The natural form of DNA is ————————.

A. A-DNA
B. B-DNA
C. C-DNA
D. Z-DNA

31. ———————— the most abundant type of RNA in cells.

A. mRNA
B. snRNA
C. rRNA
D. tRNA

32. In prokaryotes, the primary initiation codon AUG codes for ————————.

A. Methionine
B. D-methionine
C. S-adenosylmethionine
D. formylmethionine

33. DNA finger printing primarily utilizes ————————.

A. Eastern Blotting
B. Northern Blotting
C. Southern Blotting
D. Western Blotting

34. The primary microorganism used in baking is ————————.

A. Saccharomyces cerevisiae
B. Escherichia coli
C. Campylobacter jejuni
D. Listeria monocytogenes

35. ———————— is one of the most versatile and efficient bacteria used in aerobic wastewater treatment.

A. Methanosarcina barkeri
B. Pseudomonas putida
C. Clostridium thermocellum
D. Methanosaeta thermophila

36. ———————— is acknowledged as the most versatile and prolific microorganism genus for antibiotic production.

A. Rhizobium
B. Escherichia
C. Streptomyces
D. Staphylococcus

37. ———————— is widely recognized as the "Father of Genetic Engineering".

A. Herbert Boyer
B. Stanley Cohen
C. Emmanuelle Charpentier
D. Paul Berg

38. Taq polymerase is the primary thermostable enzyme used in PCR, derived from the thermophilic bacterium ————————.

A. Thermus aquaticus
B. Thermus filiformis
C. Thermus ruber
D. Thermus scotoductus

39. Golden rice is prepared through genetic engineering by introducing two specific genes ———————— into the rice genome.

A. crtZ and crtW
B. ZmPSY1 and PaCrtI
C. psy and crtI
D. OsGLK1 and tHMG1

40. The first human insulin produced by biotechnology is named ————————.

A. Gensulin
B. Novolin
C. Wosulin
D. Humulin

41. Which stem cells are created by reprogramming mature somatic cells, typically skin or blood cells back to an embryonic-like state?

A. Adult Stem Cells
B. Embryonic Stem Cells
C. Induced pluripotent stem cells
D. Mesenchymal Stem Cells

42. Bt plants contain a gene from the soil bacterium ————————.

A. Bacillus thuringiensis
B. Bacillus taeanensis
C. Bacillus thiaminolyticus
D. Bacillus tusciae

43. Which among the following is NOT a gene transfer technique?
    A. Electroporation
    B. Microinjection
    C. Biolistics
    D. Liposuction

44. Which among the following patents are NOT prevalent or permissible in India?
    A. Utility Patents
    B. Design Patents
    C. Stand-alone Software Patents
    D. Plant Varieties/Patents

45. Name a population interaction, where one species is harmed, while the other is unaffected.
    A. Competition
    B. Amensalism
    C. Predation
    D. Parasitism

46. Which among the following is not considered a primary, standard attribute of a population?
    A. Birth/death rates
    B. Sex ratio
    C. Age structure
    D. Population fecundity

47. The best, and most comprehensive, representation of energy flow in a natural ecosystem is ————————.
    A. Single-channel model
    B. Universal energy flow model
    C. Y-shaped energy flow model
    D. Detritus chain model

48. Nuclear power plants primarily use ———————— as fuel to produce energy.
    A. Plutonium-239
    B. Uranium-235
    C. Thorium-232
    D. Zirconium

49. Which among the following is NOT a designated Ramsar site of international importance in Kerala?
    A. Vembanad-Kol Wetland
    B. Ashtamudi Wetland
    C. Sasthamkotta Lake
    D. Kottuli Wetland

50. The Red Data Book is published by ————————.
    A. UNEP
    B. IUCN
    C. IPBES
    D. CITES

51. Which of the following is the excretory structure of Platyhelminthes?
    A. Nephridia
    B. Kidneys
    C. Flame cells
    D. Malpighian tubules

52. Closed circulatory System first appears in the phylum ————————.

A. Arthropoda
B. Annelida
C. Aschelminthes
D. Nematoda

53. Which among the following is the Pregnancy maintaining hormone?

A. Oxytocin
B. Prolactin
C. Progesterone
D. Thyroxine

54. The Hardy-Weinberg Principle explains which of the following?

A. Evolutionary equilibrium of populations
B. Mutation rates in DNA
C. Formation of new Species
D. Fossil record analysis

55. What is the shape of logistic growth curve?

A. J-shaped
B. S-shaped
C. Linear
D. Exponential

56. Enzymes are ————————.

A. Lipids
B. Proteins
C. Vitamins
D. Carbohydrates

57. Who Proposed the five-kingdom System of classification?

A. Carl Linnaeus
B. Carl Woese
C. Robert Harding Whittaker
D. Charles Darwin

58. Meiosis produces _____.

A. Haploid cells
B. Diploid cells
C. Somatic cells
D. Triploid cells

59. Normal tidal volume of adult human lung is ————————.

A. 300 mL
B. 800 mL
C. 1100 mL
D. 500 mL

60. Which of the following is the correct karyotype of Turner's syndrome?
    A. 44 + XY
    B. 47 + XX
    C. 45 + XO
    D. 47 + XXY

61. Carrying capacity represents ————————.
    A. Maximum birth rate
    B. Maximum population supported
    C. Minimum population
    D. Migration rate

62. Vaccine provides ————————.
    A. Active immunity
    B. Passive immunity
    C. Artificial immunity
    D. Both (A) & (C)

63. Which of the following is NOT a postulate of cell theory?
    A. All living organisms are composed of cells
    B. The cell is the basic structural and functional unit of life
    C. All cells arise from pre-existing cells
    D. All cells contain a cell wall

64. Who is known as the "Father of Evolution"?
    A. Charles Darwin
    B. Alfred Russel Wallace
    C. Robert Hook
    D. Hugo de Vries

65. Homologous organs show ————————.
    A. Convergent evolution
    B. Divergent evolution
    C. Artificial selection
    D. Mutation

66. Goitre is caused by the deficiency of ————————.
    A. Iron
    B. Calcium
    C. Iodine
    D. Sodium

67. Haemophilia is a ———————— genetic disorder.
    A. Autosomal dominant
    B. Autosomal recessive
    C. X-linked recessive disease
    D. Y-linked

68. Implantation of blastocyst occurs in which part of the female reproductive tract?

A. Ovary
B. Cervix
C. Vagina
D. Endometrium

69. Which among the following is NOT a sexually transmitted disease?

A. Gonorrhoea
B. Syphilis
C. AIDS
D. Malaria

70. Which among the following is a property of arthropods?

A. Unsegmented body
B. Jointed appendages
C. Absence of true coelom
D. Radial symmetry

71. Which pathogen cause filariasis?

A. *Wuchereria bancrofti*
B. *Plasmodium vivax*
C. *Ascaris lumbricoides*
D. *Entamoeba histolytica*

72. Frog heart has how many chambers?

A. 2
B. 4
C. 3
D. 1

73. Water vascular system is found in phylum

A. Hemichordata
B. Echinodermata
C. Coelenterata
D. Annelida

74. Which blood group is known as the 'Universal donor'?

A. AB+
B. O–
C. A+
D. B+

75. What does the Bohr effect explain?

A. O_2 release increases with an increase in concentration of CO_2
B. O_2 binding increases with an increase in CO_2 concentration
C. Haemoglobin affinity for O_2 increases when pH decreases
D. O_2 release decreases with an increase in CO_2 concentration

76. Which among the following is not a neurotransmitter?
    A. Acetylcholine
    B. Dopamine
    C. Melatonin
    D. Serotonin

77. Cloaca receives ————————.
    A. Digestive system only
    B. Excretory system only
    C. Reproductive only
    D. All three systems

78. Microfilaments are made of ————————.
    A. Tubulin
    B. Actin
    C. Keratin
    D. Collagen

79. What does Km indicate?
    A. Enzyme speed
    B. Substrate affinity
    C. Product formation
    D. pH optimum

80. Synapsis occurs in which stage of prophase I?
    A. Leptotene
    B. Pachytene
    C. Zygotene
    D. Diplotene

81. Which WBC produce antibodies?
    A. T cells
    B. B cells
    C. Macrophages
    D. Platelets

82. Which hormone is primarily responsible for stimulating testosterone production in males?
    A. Follicle-stimulating hormone (FSH)
    B. Oxytocin
    C. Prolactin
    D. Luteinizing Hormone (LH)

83. During muscle contraction, calcium ions that initiate the sliding filament mechanism are released from which structure?
    A. Sarcoplasmic reticulum
    B. Sarcolemma
    C. Mitochondria
    D. Golgi apparatus

84. Carboxyhaemoglobin transports _____.
A. O_2 B. CO_2
C. CO D. H_2O

85. The counter-current mechanism operates in which part of the nephron?
A. Loop of Henle B. Distal tubule
C. Ureter D. Proximal tubule

86. Frog skin helps in respiration due to ————————.
A. Keratinization B. Moist mucous glands
C. Scales D. Thick epidermis

87. Mitotic spindles are made of ————————.
A. Actin B. Myosin
C. Tubulin D. Keratin

88. In an electrocardiogram (ECG), the QRS complex corresponds to which event in the cardiac cycle?
A. Atrial depolarization B. Ventricular depolarization
C. Ventricular repolarization D. Atrial repolarization

89. ———————— is a sulphur containing amino acid.
A. Valine B. Threonine
C. Cysteine D. Glycine

90. Which oxygen-binding protein is found in muscle cells and serves as an oxygen reserve during intense activity?
A. Haemoglobin B. Collagen
C. Elastin D. Myoglobin

91. The transfer of an embryo with more than 8 blastomeres into the uterus is called ————————.
A. Gamete Intra Fallopian Transfer B. Zygote Intra Fallopian Transfer
C. Intra Cytoplasmic sperm injection D. Embryo Transfer

92. Frog respiration occurs through ————————.
A. Lungs only B. Skin only
C. Skin and lungs D. Gills only

93. Which cell organelle is involved in protein synthesis?
A. Lysosome
B. Ribosome
C. Peroxisome
D. Mitochondria

94. Which of the following components belongs to the Peripheral Nervous System (PNS)?
A. Brain
B. Spinal cord
C. Cranial nerves
D. Cerebellum

95. Which of the following correctly explains pleiotropy?
A. One gene-many traits
B. Many genes-one trait
C. Multiple alleles
D. Mutation

96. Excess secretion of growth hormone in adults leads to ————————.
A. Dwarfism
B. Gigantism
C. Acromegaly
D. Goitre

97. Which disorder is characterized by decreased bone density and increased fracture risk?
A. Arthritis
B. Osteoporosis
C. Muscular dystrophy
D. Rickets

98. The inheritance of the human ABO blood group system is an example of which genetic phenomenon?
A. Dominance
B. Codominance
C. Mutation
D. Linkage

99. In a monohybrid cross of $T_t \times T_t$, what is the probability of getting a homozygous recessive offspring?
A. 1/4
B. 1/2
C. 3/4
D. 1

100. What type of joint is seen in the elbow?
A. Ball and socket joint
B. Pivot joint
C. Saddle joint
D. Hinge joint

———————————

ROUGH WORK

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