

Seat No.	
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ENT-59

Total No. of Pages : 18

**M.Sc. Biochemistry/Biotechnology/
Medical Information Management
Entrance Examianation 2026
Sub. Code: 58725**

Day and Date : Tuesday, 21-07-2026

Total Marks : 100

Time : 12.30 p.m. to 02.00 p.m.

Instructions

- 1) All questions are compulsory.
- 2) Each question carries 1 mark.
- 3) Answers should be marked in the given OMR 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.

01. At what temperature does the denaturation of DNA double helix takes place?

- | | |
|---------|---------|
| a) 54°C | b) 72°C |
| c) 94°C | d) 60°C |

02. Which of the following membrane lipids have a direct glycosidic linkage between the head-group sugar and the backbone glycerol?

- | | |
|-----------------|------------------|
| a) Ether lipids | b) Sphingolipids |
| c) Glycolipids | d) Phospholipids |

03. Which of the following statement is Incorrect about SnRNA?

- a) It is small nuclear RNA
- b) It helps in RNA splicing
- c) It is also called as snurps
- d) It functions in RNA editing

04. Which of the following is the correct sequence for the movement of electrons during the light-dependent reactions of plants?
- a) P680, water, P700, NADP⁺
 - b) Water, P680, P700, NADP⁺
 - c) P700, P680, NADP⁺, water
 - d) Water, P700, NADP⁺, P680
05. The first human hormone produced by recombinant DNA technology is.....
- a) Thyroxine
 - b) Estrogen
 - c) Insulin
 - d) Progesterone
06. Surface sterilisation of an explant in PTC is done by.....
- a) Sodium hypochlorite
 - b) Sodium hydroxide
 - c) Sodium chloride
 - d) all of the above
07. Following are the methods of sterilization except....
- a) Dry heat sterilization
 - b) Autoclaving
 - c) Sterilization by filters
 - d) Laminar airflow
08. Which among the following are produced by the use of microorganisms?
- a) Fermented dairy products
 - b) Breads
 - c) Alcoholic beverages
 - d) Fermented dairy products, breads and alcoholic beverages

09. Which of the following genes is used to deduce the evolutionary relationship between the taxonomic groups?
 - a) 16S rRNA
 - b) 23S rRNA
 - c) 5S rRNA
 - d) 18S rRNA
10. Which of the ribosome subunit NOT present in prokaryotes?
 - a) 50s
 - b) 30s
 - c) 60s
 - d) None of the above
11. The alga that is exploited as a rich source of protein is.....
 - a) Spirogyra
 - b) Spirulina
 - c) Chlamydomonas
 - d) Scytonema
12. Vessels and Companion cells are characteristics of
 - a) Angiosperm
 - b) Gymnosperm
 - c) Pteridophyta
 - d) Fern
13. The pneumatic bones are characteristic of.....
 - a) Mammals
 - b) Reptiles
 - c) Aves
 - d) Lizards
14. The genotypic ratio of a dihybrid cross is.....
 - a) 3:1
 - b) 1:2:1
 - c) 12:3:1
 - d) 9:3:3:1
15. The inorganic benzene is
 - a) xenon tetrafluoride
 - b) borazine
 - c) diborane
 - d) xenon trioxide

16. When formaldehyde and potassium hydroxide are heated, we get
- a) Acetylene
 - b) Methyl alcohol
 - c) Methane
 - d) Ethyl formate
17. programme is written in high-level language.
- a) Office
 - b) Source
 - c) Perl
 - d) AWK
18. The condition in which the platelet count of an individual is drastically reduced is called
- a) Leucopenia
 - b) Thrombocytopenia
 - c) leukaemia
 - d) AIDS
19. Human Genome project was completed in.....
- a) April 2000
 - b) March 1998
 - c) December 2006
 - d) April 2003
20. The long form of HTTP is.....
- a) Hyper Text Transfer Protocol
 - b) Higher Text Transfer Protocol
 - c) Hyper Term Transfer Process
 - d) None of the above
21. The phenolphthalein indicator turnsin alkaline medium.
- a) yellow
 - b) colorless
 - c) pink
 - d) blue
22. For a healthy resting adult person, the systolic/diastolic blood pressures in capillaries are
- a) 120/80 mm Hg
 - b) 30/10 mm Hg
 - c) 10/0 mm Hg
 - d) 160/120 mm Hg

23. The property of not having separate sexes in an organism is called as.....
- a) Hermaphrodite
 - b) Oogamous
 - c) Homogamous
 - d) Heterogamous
24. All the plants like fern and mosses, which produce spores are grouped under.....
- a) bryophytes
 - b) cryptogams
 - c) thallophytes
 - d) sporophytes
25. Primosome is the complex of
- a) Helicase + Topoisomerase
 - b) Ligase + Helicase
 - c) Helicase + Primase
 - d) Primase + Ligase
26. Which of the following types of the DNA is right handed helix?
- a) A & Z
 - b) B & Z
 - c) A & B
 - d) Z & H
27. Which of the following microorganism is the major inhabitant of the human skin?
- a) Escherichia coli
 - b) Staphylococcus epidermidis
 - c) Staphylococcus aureus
 - d) Streptococcus pyogenes
28. In.....bacteria percentage of peptidoglycan is high.
- a) Protozoa
 - b) Gram positive
 - c) Gram negative
 - d) Yeast
29. Trypan Blue is used to check.....
- a) Cell viability
 - b) Cell imaging
 - c) Cell density counting
 - d) All of the above

30. Pair of hormones required for a callus to differentiate is
- a) Ethylene and Auxin
 - b) Auxin and cytokinin
 - c) Auxin and Absciscic acid
 - d) Cytokinin and gibberellin
31. Which of the following is a genetically modified crop?
- a) Bt-cotton
 - b) Bt-brinjal
 - c) Golden rice
 - d) All of the above
32. Law of thermodynamics which states that energy can neither be created nor be destroyed is the
- a) Second law of thermodynamics
 - b) Third law of thermodynamics
 - c) First law of thermodynamics
 - d) Zero-order kinetics
33. Which of the following has beads on a string structure?
- a) Nucleosomes
 - b) Chromosomes
 - c) Heterochromatin
 - d) Chromatin
34. Which of the following enzyme catalyzes the reversible degradation of 2-phosphoglycerate to phosphoenolpyruvate?
- a) Helicase
 - b) Enolase
 - c) Chymotrypsin
 - d) Hexokinase
35. Which of the following is not a step involved in gel filtration?
- a) Gel preparation
 - b) Precipitation
 - c) Sample application
 - d) Elution of the sample

36. Arrangement of nucleotides in DNA can be seen using which of the following instruments?
- a) Electron microscope b) Light microscope
 - c) X-Ray crystallography d) Ultracentrifuge
37. Which one of the following is the source of electrons in photosynthesis?
- a) NADH b) Water
 - c) Carbohydrates d) CO₂
38. Whenever the cell's ATP supply is depleted, which of the following enzyme's activity is increased?
- a) Pyruvate kinase c) Hexokinase
 - b) Phosphofructokinase-1 d) Glucokinase
39. During electrophoresis DNA will.....
- a) move towards positive terminal
 - b) stay on the place of application
 - c) move towards negative terminal
 - d) move forward
40. Totipotency refers to.....
- a) development of fruits from flowers in a culture
 - b) development of an organ from a cell in a culture medium
 - c) flowering in a culture medium
 - d) all of the above
41. The pH indicator in an animal tissue culture medium is.....
- a) HEPES b) Phenol red
 - c) FBS d) L-Glutamine

42. In 1955 the first ever developed chemically defined ATC medium was
- a) Ham's F12 medium
 - b) Eagle's Minimum Essential Medium
 - c) Eagle's Basal Medium
 - d) Dulbecco's Modified Eagle's Medium
43. According to Bergey's Manual of Systematic Bacteriology, prokaryotes that lack a cell wall belong to the group?
- a) Gracilicutes
 - b) Firmicutes
 - c) Tenericutes
 - d) Mendosicutes
44. Which microorganism(s) among the following perform photosynthesis by utilizing light?
- a) Cyanobacteria
 - b) Fungi
 - c) Viruses
 - d) Cyanobacteria, Fungi and Viruses
45. Which of the following antibody gives a primary immune reaction?
- a) IgG
 - b) IgM
 - c) IgA
 - d) IgE
46. Which of the following regarding the basic mechanism of gene expression is correct?
- a) DNA ---> tRNA ---> protein
 - b) DNA ---> mRNA ---> protein
 - c) RNA ----> mRNA ---> protein
 - d) DNA ---> protein
47. Phycology is the study of.....
- a) Algae
 - b) Fungi
 - c) Bacteria
 - d) All the above

48. ICBN stands for:
- a) Indian Congress of Biological Names
 - b) International Code for Botanical Nomenclature
 - c) International Congress of Biological Names
 - d) Indian Code of Botanical Nomenclature
49. A nano biological recognition component, which is involved in interacting with the analyte molecule is called as
- a) biosensor
 - b) probe
 - c) nano biosensor
 - d) quantum dots
50. Salamander is an example of
- a) Reptile
 - b) Osteichthyes
 - c) Amphibians
 - d) Mammals
51. Which is the anti-coagulant substance in blood?
- a) Thrombin
 - b) Globin
 - c) Fibrinogen
 - d) Heparin
52. Which among the following is a Noble Gas?
- a) Nitrogen
 - b) Hydrogen
 - c) Oxygen
 - d) Helium
53. is called as caustic soda.
- a) NaOH
 - b) KOH
 - c) NH_4OH
 - d) $\text{Ca}(\text{OH})_2$

54. Two or more compounds that have the same chemical formula, but different arrangement of atoms are called
- a) isotopes
 - b) isotones
 - c) isomers
 - d) allotropes
55. ICs were used ingeneration of computers.
- a) First
 - b) Second
 - c) Third
 - d) Fourth
56. Among following is not part of CPU.
- a) Arithmetic Unit
 - b) logic Unit
 - c) Hard Disk
 - d) None of the above
57. is a hereditary disease?
- a) Rabies
 - b) Colour blindness
 - c) Polio
 - d) Small pox
58. What is the approximate time required for a heart-beat?
- a) 0.8 second
 - b) 0.6 second
 - c) 0.5 second
 - d) 0.7 second
59.is a viral disease.
- a) Alzheimer
 - b) Diabetes
 - c) Heart attack
 - d) Influenza
60. Among following term used to define all input and output devices in a computer system.
- a) Software
 - b) Hardware
 - c) Shared resources
 - d) Monitor

61. Which among the following is most electronegative element?
- a) Chlorine
 - b) Fluorine
 - c) Bromine
 - d) All of them have same electronegativity
62. $[\text{Fe}(\text{CN})_6]^{-3}$ is
- a) paramagnetic
 - b) diamagnetic
 - c) terromagnetic
 - d) ferromagnetic
63. Which of the following animal is not viviparous?
- a) Whale
 - b) Bat
 - c) Elephant
 - d) Platypus
64. Nanomembranes have a pore size of..
- a) 1nm-10nm
 - b) 10nm-100nm
 - c) 0.1 nm-1nm
 - d) 100nm-1000nm
65. In India, coniferous forests are found in.....
- a) Himalayas
 - b) Western ghats
 - c) Eastern ghats
 - d) All the above
66. Linking number is always a.....
- a) Whole number
 - b) Prime number
 - c) Integer
 - d) Even number
67. Monocytes differentiate into which kind of phagocytic cells?
- a) Neutrophils
 - b) B cells
 - c) Macrophages
 - d) T cells
68.of following are the club fungi.
- a) Basidiomycota
 - b) Ascomycota
 - c) Zygomycetes
 - d) Chytridiomycota

69. Which of the following is best suited method for production of virus free plants?

- a) Embryo culture
- b) Meristem culture
- c) Ovule culture
- d) Anther culture

70. Which of the following is a water soluble vitamin?

- a) Vitamin B
- b) Vitamin A
- c) Vitamin D
- d) Vitamin K

71. Long-chain fatty acids are oxidized step-wise in one-carbon unit starting from.....

- a) Aliphatic end
- b) Carboxyl end
- c) a and b
- d) None of the above

72. When a system is at equilibrium, what will be the value of ΔG ?

- a) $\Delta G = 0$
- b) $\Delta G = 1$
- c) $\Delta G = -1$
- d) $\Delta G = \Delta G$

73. Which of the following is an imino acid?

- a) Serine
- b) Alanine
- c) Glycine
- d) Proline

74. Which class of the following enzymes catalyzes Hydrolysis reactions?

- a) Hydrolase
- b) Oxidoreductase
- c) Isomerase
- d) Ligase

75. Which of the following is an example of epimers?

- a) Mannose & Glucose
- b) Glucose & Ribose
- c) Galactose & Mannose
- d) Glucose & Galactose

76. Which of the following is the first amino group entering into urea cycle?
- a) Argininosuccinate b) Citrulline
 - c) Carbamoyl phosphate d) Ornithine
77. Enzymes which have different molecular structure but has same function are called.....
- a) Coenzymes b) Apyzyme
 - c) Isoenzymes d) Apoenzyme
78. The primary structure of DNA and RNA proceeds in which direction?
- a) 3' ---> 5' b) 5' ---> 3'
 - c) 4' ---> 6' d) 3' ---> 6'
79. Which of the following is not a flavoprotein?
- a) NADH dehydrogenase-Q reductase
 - b) Succinate dehydrogenase
 - c) Xanthine oxidase
 - d) Cytochrome c
80. PCR technique was invented by
- a) Kary Mullis b) Boyer
 - c) Sanger d) Cohn
81. Synthetic seeds are produced by the encapsulation of somatic embryos with.....
- a) Sodium acetate b) Sodium nitrate
 - c) Sodium chloride d) Sodium alginate
82. Which of the following cell types retain highest biotransformation ability?
- a) Continuous cell lines b) Finite cell lines
 - c) Primary cells d) Secondary cell lines

83. The portion of the growth curve where a rapid growth of bacteria is observed is known as

- a) Lag phase b) Logarithmic phase
- c) Stationary phase d) Decline phase

84. Which of the following media component is a rich source of B vitamins?

- a) Peptone b) Yeast extract
c) Beef extract d) Agar

85. Which of the following virus may not show flu-like symptoms in humans?

- a) Coronavirus b) Rhinovirus
- c) Rotavirus d) Influenza virus

86. The DNA replication is always.....

- a) Conservative b) Semiconservative
c) Non-Conservative d) Dispersive

87. Which of the following is not a termination codon?

- [illegible]

88. Which of the following is the true statement about bryophytes?

- a) they have chloroplasts b) they have archegonia
c) they are thalloid d) all of the above

89. The repository of plant taxonomy and systematics is called as

- a) Red data book b) Herbarium
- c) Botanical garden d) Genomic library

90. Which of the following families is characterised by trimerous flowers, superior and trilocular ovary with axile placentation?
- a) Cucurbitaceae b) Solanaceae
c) Liliaceae d) Compositae
91. Arthropods excrete through
- a) Malpighian tubules b) Pores
c) Nephridia d) Kidneys
92. The site of fertilization in the female mammalian reproductive system is.....
- a) Vagina b) Uterus
c) Fallopian tube d) Ovarian fimbriae
93. Food for the developing fetus is supplied by the.....
- a) Placenta b) Allantois
c) Uterus d) Ovary
94. What is the bond angle between H_2O molecule?
- a) 90° b) 104.5°
c) 122° d) 180°
95. Which of the following solutions cannot conduct electricity?
- a) Sugar in water b) NaCl in water
c) MgCl_2 in water d) KCl in water
96. Scanner is an device.....
- a) Input b) Output
c) Storage d) Memory

97. language is a set of instructions coded with 'zero' and 'one'.
- a) Basic
 - b) Machine
 - c) Cobal
 - d) Fortran
98. Statistical and Mathematical operations are performed with the help of.....
- a) Microsoft word
 - b) Microsoft PowerPoint
 - c) Microsoft excel
 - d) None of these
99. Following among is a nucleotide sequence database.
- a) Swiss-Port
 - b) PubMed
 - c) DDBJ
 - d) PDB
100. Which one of the following is not a function of kidney?
- a) Removal of metabolic wastes from body
 - b) Regulation of blood pH
 - c) Regulation of osmotic pressure of blood
 - d) Production of antibodies



- Rough Work -

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