

No. of Pages. 16

Code No.

Y – 3046

Register Number :

Time : 2 Hours

Name :

Max.Marks : 100

**Entrance Examination for Admission to the P.G. Courses in the
Teaching Departments, 2026**

CSS

**COMPUTATIONAL BIOLOGY WITH SPECIALIZATION IN (COMPUTER
AIDED DRUG DESIGN/NGS DATA ANALYTICS)**

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



DO NOT WRITE HERE

Choose appropriate answer from the options in the questions.

(100 × 1 = 100 marks)

1. DNA replication occurs during _____
 - A. G1 phase
 - B. S phase
 - C. G2 phase
 - D. M phase

2. The basic unit of chromatin is _____
 - A. Ribosome
 - B. Nucleosome
 - C. Centrosome
 - D. Lysosome

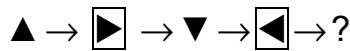




3. Histones are rich in _____
- A. Lysine and arginine B. Glycine and alanine
C. Serine and threonine D. Methionine and cysteine
4. The enzyme synthesizing RNA primer is _____
- A. Ligase B. Primase
C. Helicase D. DNA polymerase I
5. Okazaki fragments are formed on _____
- A. Leading strand B. Lagging strand
C. Coding strand D. Template strand
6. The central dogma explains _____
- A. DNA → RNA → Protein B. RNA → DNA → Protein
C. Protein → RNA → DNA D. DNA → Protein → RNA
7. The start codon is _____
- A. UAA B. AUG
C. UGA D. UAG
8. Anticodon is present on _____
- A. mRNA B. rRNA
C. tRNA D. DNA
9. Ribosome synthesis occurs in _____
- A. Cytoplasm B. Nucleolus
C. Golgi apparatus D. Lysosome
10. The genetic code is degenerate because _____
- A. It is overlapping
B. Multiple codons code the same amino acid
C. It is continuous
D. It is non-universal

11. Glycogen is stored mainly in _____
- A. Brain
 - B. Liver
 - C. Muscle
 - D. Liver and muscle
12. Lactose contains _____
- A. Glucose + fructose
 - B. Glucose + galactose
 - C. Glucose + glucose
 - D. Galactose + fructose
13. A peptide bond is formed between _____
- A. Amino groups
 - B. Carboxyl groups
 - C. Amino and carboxyl groups
 - D. Hydroxyl groups
14. The α -helix is stabilized by _____
- A. Ionic bonds
 - B. Hydrogen bonds
 - C. Peptide bonds
 - D. Disulfide bonds
15. Mutation refers to _____
- A. Chromosome duplication
 - B. DNA sequence change
 - C. RNA synthesis
 - D. Protein degradation
16. DNA helicase function _____
- A. Primer synthesis
 - B. Strand separation
 - C. Ligase activity
 - D. Proofreading
17. Cholesterol serves as a precursor for _____
- A. Steroid hormones
 - B. Amino acids
 - C. Vitamins
 - D. Nucleotides
18. Translation occurs in _____
- A. Nucleus
 - B. Ribosome
 - C. Golgi body
 - D. Lysosome

19. Ribozymes are _____
- A. DNA enzymes
 - B. RNA enzymes
 - C. Protein enzymes
 - D. Lipid enzymes
20. Stop codon example _____
- A. AUG
 - B. UAA
 - C. GUG
 - D. CUG
21. Vitamin required for blood clotting _____
- A. Vitamin A
 - B. Vitamin K
 - C. Vitamin C
 - D. Vitamin D
22. The Human Genome Project aimed to _____
- A. Sequence proteins
 - B. Sequence entire genome
 - C. Study enzymes
 - D. Study lipids
23. Meiosis produces _____
- A. Diploid cells
 - B. Haploid cells
 - C. Polyploid cells
 - D. Somatic cells
24. Functional unit of heredity _____
- A. Chromosome
 - B. Gene
 - C. Protein
 - D. Codon
25. DNA polymerase synthesizes DNA in _____
- A. 3' → 5' direction
 - B. 5' → 3' direction
 - C. Both directions
 - D. Random direction
26. tRNA carries _____
- A. Codon
 - B. Anticodon
 - C. Promoter
 - D. Operator

27. Sucrose is composed of _____
- A. Glucose + fructose
 - B. Glucose + galactose
 - C. Fructose + galactose
 - D. Glucose + glucose
28. Secondary protein structure stabilized by _____
- A. Hydrogen bonds
 - B. Ionic bonds
 - C. Covalent bonds
 - D. Hydrophobic bonds.
29. Hormone that regulates blood glucose _____
- A. Thyroxine
 - B. Insulin
 - C. Cortisol
 - D. Estrogen
30. The DNA backbone contains _____
- A. Sugar-phosphate
 - B. Base-phosphate
 - C. Sugar-base
 - D. Amino-phosphate
31. Codons located on _____
- A. DNA
 - B. mRNA
 - C. tRNA
 - D. rRNA
32. Glycosidic bond links _____
- A. Amino acids
 - B. Sugars
 - C. Bases
 - D. Lipids
33. Transcription produces _____
- A. DNA
 - B. RNA
 - C. Protein
 - D. Lipid
34. Lysosomes contain _____
- A. Digestive enzymes
 - B. DNA
 - C. Lipids
 - D. Hormones

35. Genome refers to _____
- A. Protein set
B. Total DNA content
C. RNA content
D. Lipid content
36. The Krebs cycle occurs in _____
- A. Cytoplasm
B. Mitochondria
C. Nucleus
D. Ribosome
37. Enzymes reduce _____
- A. Temperature
B. Activation energy
C. pH
D. Substrate concentration
38. Ribosomes are composed of _____
- A. DNA+protein
B. RNA+protein
C. DNA+RNA
D. Lipid+RNA
39. DNA base pairing _____
- A. A–G
B. A–T
C. C–A
D. G–T
40. Genetic variation source _____
- A. Mutation
B. Replication
C. Translation
D. Transcription
41. CAT → DBU → DOG →
- A. EPH
B. EOH
C. EPG
D. FPH
42. Fill the series: 2, 6, 12, 20, _____
- A. 28
B. 30
C. 32
D. 36

43. A taller than B; B taller than C _____
- A. B tallest
B. C tallest
C. A tallest
D. Cannot determine
44. Odd word _____
- A. Apple
B. Mango
C. Banana
D. Potato
45. Series: A, D, G, J, _____
- A. K
B. L
C. M
D. N
46. 3:27: 5:
- A. 25
B. 75
C. 125
D. 150
47. If North becomes South-East, East becomes
- A. South
B. North-West
C. South-West
D. North-East
48.  → ?
- A. 
B. 
C. 
D. 
49. A right-pointing arrow (→) rotated 180° becomes
- A. ↑
B. ←
C. ↓
D. →
50. All enzymes are proteins; some proteins are hormones. Which of the following is true?
- A. All hormones are enzymes
B. Some hormones are enzymes
C. Some proteins are enzymes
D. No hormones are enzymes

51. Mirror image of LEFT _____
 A. TFEL
 B. THGI
 C. ELFT
 D. LFFT
52. 5, 10, 20, 40, _____
 A. 60
 B. 80
 C. 100
 D. 120
53. PEN: WRITE:: KNIFE:
 A. CUT
 B. DRAW
 C. EAT
 D. READ
54. If $A=1$, $B=2$ then $CAT =$
 A. 24
 B. 23
 C. 22
 D. 21
55. AZ, BY, CX, _____
 A. DW
 B. DV
 C. EW
 D. DX
56. Identify the odd one from the following
 A. 8
 B. 27
 C. 64
 D. 81
57. Ravi 5th from the top in a class of 20. Rank from the bottom.
 A. 14
 B. 15
 C. 16
 D. 17
58. A person walks 10 m towards East, then turns 90° clockwise and walks 5 m, and finally turns 90° clockwise again. In which direction is he now facing?
 A. West
 B. North
 C. South
 D. East
59. TABLE → UBCMF then CHAIR →
 A. DIBJS
 B. DIBKS
 C. DJBIS
 D. DIBJR

60. 7, 14, 28, 56, _____
A. 84
B. 96
C. 112
D. 120
61. 20% of 250 =
A. 25
B. 50
C. 75
D. 100
62. Average of 5, 10, 15 _____
A. 5
B. 10
C. 15
D. 20
63. A person travels 60 km at a speed of 30 km/h and returns the same distance at a speed of 60 km/h. What is the average speed for the entire journey?
A. 40 km/h
B. 45 km/h
C. 48 km/h
D. 50 km/h
64. Ratio 2:5 equals
A. 4:10
B. 3:10
C. 5:2
D. 6:15
65. Area of a square of side 4 _____
A. 8
B. 12
C. 16
D. 20
66. 30% of 90
A. 18
B. 27
C. 36
D. 45
67. If 15 men can complete a work in 8 days, how many days will 10 men take to complete the same work (assuming equal efficiency)?
A. 10 days
B. 12 days
C. 15 days
D. 18 days

68. Simple interest on ₹1000 at 10% for 1 year
A. 50
B. 100
C. 150
D. 200
69. If the volume of a cube is 216 cm^3 , what is the length of one side of the cube?
A. 4 cm
B. 5 cm
C. 6 cm
D. 8 cm
70. If one-half of a number is equal to one-third of 96, what is the number?
A. 48
B. 64
C. 72
D. 96
71. Next term: 4, 9, 16, 25
A. 30
B. 36
C. 49
D. 64
72. 12% of 200
A. 12
B. 18
C. 24
D. 30
73. Perimeter of a square of side 5cm _____
A. 10 cm
B. 15 cm
C. 20 cm
D. 25 cm
74. The average of five consecutive integers is 18. What is the largest of these integers?
A. 18
B. 19
C. 20
D. 21
75. Average of 2, 4, 6, 8 _____
A. 4
B. 5
C. 6
D. 7

76. Two numbers are in the ratio 3: 5. If their sum is 64, what is the larger number?
- A. 24
B. 32
C. 40
D. 48
77. Probability of getting a head (fair coin) _____
- A. $\frac{1}{2}$
B. $\frac{1}{4}$
C. $\frac{3}{4}$
D. 1
78. Volume of a cube of side 2 cm _____
- A. 4 cm
B. 6 cm
C. 8 cm
D. 16 cm
79. A student scored 72 marks out of 90 in an examination. What is the percentage of marks obtained?
- A. 70%
B. 75%
C. 80%
D. 85%
80. $3^2 + 4^2$ _____
- A. 12
B. 25
C. 16
D. 20
81. Linux is _____
- A. Compiler
B. Operating system
C. Protocol
D. Interpreter
82. URL stands for _____
- A. Uniform Resource Locator
B. Universal Retrieval Link
C. Uniform Retrieval Locator
D. Universal Resource Link
83. FTP is used for _____
- A. File transfer
B. Email
C. Browsing
D. Editing

84. HTML is used to _____
- | | |
|--------------------|---------------------|
| A. Design webpages | B. Compile programs |
| C. Store database | D. Encrypt data |
85. IP address identifies _____
- | | |
|-----------|------------|
| A. Device | B. File |
| C. User | D. Program |
86. 1s command _____
- | | |
|-----------------|---------------|
| A. Delete files | B. List files |
| C. Move files | D. Copy files |
87. Compiler converts _____
- | | |
|---------------------|-------------------------|
| A. Machine → source | B. High-level → machine |
| C. Binary → decimal | D. Assembly → binary |
88. Database stores _____
- | | |
|----------------|--------------------|
| A. Programs | B. Structured data |
| C. Images only | D. Audio only |
89. WWW stands for _____
- | | |
|-------------------|-------------------|
| A. World Wide Web | B. Web World Wide |
| C. Wide Web World | D. Web Wide World |
90. Interpreter executes _____
- | | |
|-------------------|-----------------|
| A. Entire program | B. Line-by-line |
| C. Random | D. Twice |
91. The operating system manages _____
- | | |
|-----------------------|---------------|
| A. Hardware resources | B. Only files |
| C. Only memory | D. Only CPU |
92. Binary equivalent of decimal 2 _____
- | | |
|-------|--------|
| A. 01 | B. 10 |
| C. 11 | D. 100 |

93. Algorithm is _____
- A. Stepwise procedure
 - B. Hardware unit
 - C. Software virus
 - D. Network
94. RAM is _____
- A. Permanent
 - B. Volatile
 - C. Optical
 - D. Secondary
95. Example of a search engine _____
- A. Google
 - B. Linux
 - C. Python
 - D. Excel
96. UNIX command to change directory _____
- A. ls
 - B. cd
 - C. pwd
 - D. rm
97. Extension of C source file _____
- A. .exe
 - B. .c
 - C. .txt
 - D. .doc
98. Example of high-level language _____
- A. Python
 - B. Machine code
 - C. Binary
 - D. Assembly
99. Spreadsheet software _____
- A. Excel
 - B. Linux
 - C. Chrome
 - D. Oracle
100. LAN refers to _____
- A. Large Area Network
 - B. Local Area Network
 - C. Logical Access Network
 - D. Linked Area Network

ROUGH WORK

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