

No. of Pages. 16

Code No.

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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 MACHINE
LEARNING**

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



25. Find the missing term : ACE, BDF, CEG, ?
A. DFH
B. DEH
C. EFI
D. DGI
26. A train 180 m long crosses a pole in 9 seconds. Its speed is
A. 20 m/s
B. 18 m/s
C. 72 km/h
D. Both A and C
27. A can finish a work in 12 days and B in 18 days. Working together, how many days will they take?
A. 6.8
B. 7.2
C. 7.5
D. 8
28. A number increases from 240 to 300. The percentage increase is
A. 20%
B. 22.5%
C. 25%
D. 30%
29. The ratio of boys to girls in a class is 7 : 5. If there are 36 students, the number of girls is
A. 14
B. 15
C. 16
D. 18
30. Two fair coins are tossed. The probability of getting at least one head is
A. $\frac{1}{4}$
B. $\frac{1}{2}$
C. $\frac{3}{4}$
D. 1
31. In how many ways can 5 different books be arranged on a shelf?
A. 25
B. 60
C. 120
D. 240
32. From 6 students, a committee of 2 is to be formed. Number of possible committees is
A. 12
B. 15
C. 30
D. 36
33. A cylindrical tank has radius 7 cm and height 10 cm. Its volume is
A. 1540 cm^3
B. 490 cm^3
C. 1400 cm^3
D. 980 cm^3

34. The total surface area of a cube of side 4 cm is
A. 16 cm^2 B. 64 cm^2
C. 96 cm^2 D. 128 cm^2
35. A boat moves downstream at 18 km/h and the stream speed is 3 km/h. The speed of the boat in still water is
A. 12 km/h B. 15 km/h
C. 18 km/h D. 21 km/h
36. If 35% of a number is 84, the number is
A. 220 B. 230
C. 240 D. 280
37. A person walks at 4 km/h. How long will it take to cover 2.5 km?
A. 35 min B. 37.5 min
C. 40 min D. 45 min
38. A and B together have Rs. 840 in the ratio 5:7. B has
A. Rs. 300 B. Rs. 420
C. Rs. 490 D. Rs. 540
39. The probability of drawing a king from a standard deck of 52 cards is
A. $1/13$ B. $1/26$
C. $1/4$ D. $4/13$
40. A ladder 13 m long reaches a window 12 m above the ground. The distance of the foot of the ladder from the wall is
A. 3 m B. 4 m
C. 5 m D. 6 m
41. How many 3-digit numbers can be formed using digits 1, 2, 3, 4 without repetition?
A. 12 B. 18
C. 24 D. 64
42. If 12 men can complete a work in 15 days, then 20 men can complete the same work in
A. 8 days B. 9 days
C. 10 days D. 12 days

43. A cone has radius 3 cm and height 4 cm. Its volume is
A. $12 \pi \text{ cm}^3$ B. $16 \pi \text{ cm}^3$
C. $24 \pi \text{ cm}^3$ D. $36 \pi \text{ cm}^3$
44. The simple interest on Rs. 5000 at 8% per annum for 2 years is
A. Rs. 400 B. Rs. 600
C. Rs. 800 D. Rs. 1000
45. A bag has 3 red, 2 blue and 5 green balls. One ball is drawn at random. Probability that it is not green is
A. $1/2$ B. $3/10$
C. $1/5$ D. $2/5$
46. The curved surface area of a cylinder of radius 5 cm and height 8 cm is
A. $40 \pi \text{ cm}^2$ B. $80 \pi \text{ cm}^2$
C. $130 \pi \text{ cm}^2$ D. $200 \pi \text{ cm}^2$
47. If the present ages of P and Q are in the ratio 4:5 and their sum is 45, Q's age is
A. 18 B. 20
C. 25 D. 30
48. A sum of money becomes Rs. 1,210 in 2 years at 10% simple interest. The principal is
A. Rs. 1,000 B. Rs. 1,050
C. Rs. 1,100 D. Rs. 1,200
49. The number of diagonals in a hexagon is
A. 6 B. 7
C. 8 D. 9
50. A card is drawn from 1 to 20 numbered cards. Probability that the number is prime is
A. $7/20$ B. $8/20$
C. $9/20$ D. $10/20$
51. Which command prints the absolute path of the current working directory in Linux?
A. ls B. pwd
C. cd D. whoami

52. Which command is used to count lines, words, and bytes/characters in a file?
- A. `wc`
 - B. `cat`
 - C. `grep`
 - D. `ps`
53. Which layer of an operating system interacts most directly with the hardware?
- A. Shell
 - B. Application layer
 - C. Kernel
 - D. Compiler
54. In a shell script, which line is typically used as the shebang for Bash?
- A. `#!/bin/bash`
 - B. `#!/bin/bash`
 - C. `//bin/bash`
 - D. `<bash>`
55. Which device forwards packets between different networks based on IP addresses?
- A. Hub
 - B. Switch
 - C. Router
 - D. Repeater
56. Which of the following is a valid private IPv4 address?
- A. 8.8.8.8
 - B. 172.20.5.4
 - C. 193.168.1.10
 - D. 11.0.0.1
57. DNS primarily translates
- A. MAC addresses to IP addresses
 - B. Domain names to IP addresses
 - C. URLs to HTML
 - D. Packets to frames
58. FTP is mainly used for
- A. File transfer
 - B. Email encryption
 - C. Domain registration
 - D. Compiling source code
59. The HTML element used for an ordered list is
- A. ``
 - B. ``
 - C. ``
 - D. `<dl>`
60. Which HTML tag is used to define a paragraph?
- A. `<p>`
 - B. `<para>`
 - C. `<text>`
 - D. `<pg>`

61. Which of the following best describes a compiler?
- A. Translates and executes one line at a time
 - B. Converts source code to machine/executable form before execution
 - C. Edits source code
 - D. Connects computers in a LAN
62. An interpreter differs from a compiler because it typically
- A. Produces an executable file before running
 - B. Executes the program line by line
 - C. Works only for C
 - D. Works only on Linux
63. Which file extension is most commonly associated with a C++ source file?
- A. .py
 - B. .cpp
 - C. .exe
 - D. .db
64. What will be printed by the Python code: `print(len('machine'))`?
- A. 6
 - B. 7
 - C. 8
 - D. 9
65. What is the output of Python code: `print(2 ** 3 + 1)`
- A. 6
 - B. 8
 - C. 9
 - D. 10
66. What is the output of Python code: `x = [1, 2, 3]; x.append(4); print(x[-1])`
- A. 1
 - B. 3
 - C. 4
 - D. [4]
67. Which Python data structure stores key-value pairs?
- A. list
 - B. tuple
 - C. set
 - D. dictionary
68. What is the output of Python code: `for i in range(3): print(i, end = ' ')`
- A. 1 2 3
 - B. 0 1 2
 - C. 0 1 2 3
 - D. 1 2
69. What is the output of Python code: `print('AI'.lower())`
- A. AI
 - B. Ai
 - C. ai
 - D. al

79. Which sorting algorithm repeatedly compares adjacent elements and swaps them if they are in the wrong order?
- A. Merge sort
 - B. Selection sort
 - C. Bubble sort
 - D. Binary sort
80. The worst-case time complexity of linear search on an array of n elements is
- A. $O(1)$
 - B. $O(\log n)$
 - C. $O(n)$
 - D. $O(n \log n)$
81. A database table row is also called a
- A. Field
 - B. Schema
 - C. Record
 - D. Key
82. SQL command used to retrieve data from a table is
- A. GET
 - B. OPEN
 - C. SELECT
 - D. FETCHROW
83. A primary key in a relational database must be
- A. Only numeric
 - B. Unique and not null
 - C. A foreign key
 - D. Encrypted
84. Normalization In databases is mainly used to
- A. Increase data redundancy
 - B. Reduce redundancy and improve integrity
 - C. Make queries slower
 - D. Replace SQL
85. Which of the following best describes a URL?
- A. A device that routes packets
 - B. A unique address of a resource on the web
 - C. A database key
 - D. A Linux command
86. A CDN primarily helps by
- A. Compiling JavaScript faster
 - B. Storing passwords securely
 - C. Serving content from geographically distributed servers
 - D. Assigning IP addresses

87. Which network covers a relatively small geographic area such as a building or campus?
- A. LAN
 - B. WAN
 - C. MAN
 - D. PAN
88. Which statement about a web browser is correct?
- A. It translates source code to machine code
 - B. It is used to access and render web content
 - C. It assigns IP addresses
 - D. It is a database system
89. Which of the following is an example of an executable file on many systems?
- A. source.cpp
 - B. notes.txt
 - C. program.exe
 - D. index.html
90. Which command can list files, including hidden ones, in many Unix/Linux shells when used with the appropriate option?
- A. pwd -a
 - B. ls -a
 - C. cd -a
 - D. wc -a
91. In C, what is the output?
- ```
int x = 1;
if (x) printf("Yes"); else printf("No");
```
- A. Yes
  - B. No
  - C. 1
  - D. Compiler error
92. What is the output of Python code: `print([i*i for i in range(3)])`
- A. [1, 4, 9]
  - B. [0, 1, 4]
  - C. [0, 1, 4, 9]
  - D. [0, 1, 2]
93. Which of the following is supervised machine learning?
- A. K-means clustering
  - B. Linear regression
  - C. Apriori association
  - D. PCA
94. Which algorithm is commonly used for classification?
- A. K-nearest neighbors
  - B. K-means
  - C. Apriori
  - D. PageRank

95. In machine learning, overfitting refers to a model that
- A. Performs well on training data but poorly on unseen data
  - B. Cannot fit even the training data
  - C. Uses too little data
  - D. Has no parameters
96. A confusion matrix is commonly used to evaluate
- A. Database normalization
  - B. Classification models
  - C. Sorting algorithms
  - D. Network latency
97. Which of the following is an unsupervised learning method?
- A. Logistic regression
  - B. Decision tree
  - C. K-means clustering
  - D. Naive Bayes
98. Ethernet is most closely associated with
- A. Wireless satellite communication only
  - B. Wired local area networking
  - C. Database indexing
  - D. Compiler design
99. Which statement about search engines is most accurate?
- A. They only store HTML tags
  - B. They help locate web content by indexing and ranking pages
  - C. They replace DNS servers
  - D. They are operating systems
100. An intranet is
- A. A global public network
  - B. A private network used within an organization
  - C. A type of compiler
  - D. A database relationship
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## **ROUGH WORK**

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