

367

Sr. No.

ENTRANCE TEST-2024

5 YEAR INTEGRATED MASTERS PROGRAMME IN DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

Total Questions : 60
Time Allowed : 70 Minutes

Question Booklet Series **C**
Roll No. :

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Instructions for Candidates :

1. Write your Roll Number in the space provided at the top of this page of Question Booklet and fill up the necessary information in the spaces provided on the OMR Answer Sheet.
2. OMR Answer Sheet has an Original Copy and a Candidate's Copy glued beneath it at the top. While making entries in the Original Copy, candidate should ensure that the two copies are aligned properly so that the entries made in the Original Copy against each item are exactly copied in the Candidate's Copy.
3. All entries in the OMR Answer Sheet, including answers to questions, are to be recorded in the Original/Carbon Copy.
4. Use only blue/black ball point pen to darken the circle of correct/most appropriate response. In no case gel/ink pen or pencil should be used.
5. **Do not darken more than one circle of option for any question. A question with more than one darkened response shall be considered wrong.**
6. There will be 'Negative Marking' for wrong answers. Each wrong answer will lead to the deduction of 0.25.
7. Only those candidates who would obtain positive score in Entrance Test Examination shall be eligible for admission.
8. Do not make any stray mark on the OMR sheet.
9. Calculators and mobiles shall not be permitted inside the examination hall.
10. Rough work, if any, should be done on the blank sheets provided with the question booklet.
11. OMR Answer Sheet must be handled carefully and it should not be folded or mutilated in which case it will not be evaluated.
12. Ensure that your OMR Answer Sheet has been signed by the Invigilator and the candidate himself/herself.
13. At the end of the examination, hand over the OMR Answer Sheet to the invigilator who will first tear off the original OMR sheet in presence of the Candidate and hand over the Candidate's Copy to the candidate.
14. If any of the information in the response Sheet/Question Paper has been found missing or not mentioned as stated above the candidate is solely responsible for that lapse.

1. Find the value of x :
 $\sqrt{(x+5)} - \sqrt{(x-5)} = 2$
(A) $10/4$
(B) $12/4$
(C) $15/4$
(D) $29/4$
2. Find the HCF of 24, 30, and 36 :
(A) 2
(B) 6
(C) 12
(D) 18
3. Find the LCM of 8, 12, and 15 :
(A) 120
(B) 180
(C) 240
(D) 360
4. Approximate the value of:
 $(1.99)^3$
(A) 7.92
(B) 7.88
(C) 8.00
(D) 8.10
5. Solve for x :
 $\log_2(x) + \log_2(3) = 5$
(A) 10
(B) 10.67
(C) 12
(D) 12.62
6. Rahim buys 100 shares at Rs. 50 each and sells 50 shares at Rs. 70 each. Later, he sells the remaining shares at Rs. 40 each. Find his overall profit/loss percentage :
(A) 10% profit
(B) 10% loss
(C) 5% profit
(D) 5% loss
7. Find the simple interest on Rs. 15,000 invested for 2 years at 8% per annum :
(A) Rs. 3,400
(B) Rs. 2,800
(C) Rs. 2,400
(D) Rs. 3,200
8. Find the compound interest (CI) on Rs. 10,000 invested for 2 years at 10% per annum compounded annually :
(A) Rs. 2,100
(B) Rs. 2,205
(C) Rs. 2,310
(D) Rs. 2,500
9. If $6 : 8 = x : 12$, find x .
(A) 7
(B) 8
(C) 9
(D) 10
10. The price of a laptop increases by 12% every year. If the initial price is Rs. 60,000, find the price after 2 years :
(A) Rs. 73,440
(B) Rs. 75,264
(C) Rs. 76,320
(D) Rs. 77,040
11. What are the average marks of students A, B, and C ?
Statement 1 : A scored 80, B scored 90, and C scored 70.
Statement 2 : The total marks of A, B, and C are 240.
(A) Statement 1 alone is sufficient
(B) Statement 2 alone is insufficient
(C) Both statements together are sufficient
(D) Neither statement is sufficient

12. The table below shows the sales of two products, A and B, over three months :

Month	Product A	Product B
Jan	200	300
Feb	250	350
Mar	300	400

What is the percentage increase in sales of Product A from Jan to Mar ?

- (A) 20%
 (B) 30%
 (C) 50%
 (D) 60%
13. Compare :
 Column A : $\frac{3}{4} \times \frac{2}{3} \times \frac{5}{6}$
 Column B : $\frac{1}{2} \times \frac{3}{4} \times \frac{5}{6}$
 (A) Column A is greater
 (B) Column B is greater
 (C) Columns A and B are equal
 (D) Cannot be determined
14. Compare the following data sets :
 Set A : 2, 4, 6, 8, 10
 Set B : 1, 3, 5, 7, 9
 Which of the following statements is true?
 (A) Set B has a higher mean but lower median
 (B) Set B has a higher mean and median
 (C) Set A has a higher mean but lower median
 (D) Set A has a higher mean and median
15. Find the average of :
 2.2, 4.3, 6.1, 8.4, 10.0
 (A) 4.2
 (B) 5.8
 (C) 6.2
 (D) 8.7
16. Find the volume of a rectangular prism with :
 Length (l) = 8 cm
 Breadth (b) = 6 cm
 Height (h) = 4 cm
 (A) 160 cm^3
 (B) 192 cm^3
 (C) 224 cm^3
 (D) 256 cm^3
17. Find the missing number in the sequence :
 1, 2, 3, 5, 8, 13, ____
 (A) 14
 (B) 22
 (C) 21
 (D) 20
18. Find the number of elements in the union of :
 Set A : {1, 2, 3, 4, 5, 11, 17}
 Set B : {4, 5, 6, 7, 8, 23}
 (A) 9
 (B) 8
 (C) 10
 (D) 11
19. Find the analogy :
 $3:81 :: 2:16 :: 5:?$
 (A) 125
 (B) 325
 (C) 625
 (D) None of the above
20. Horse : Stable :: Lion : ?
 (A) Garage
 (B) Den
 (C) Jungle
 (D) Hole
21. Mark the odd one out :
 (A) Mercury
 (B) Venus
 (C) Earth
 (D) Moon

22. Suhail is facing north. He walks 6 km north, then 3 km east, and finally 2 km south. How far is Suhail from his starting point ?
- (A) 6 km east, 3 km north
 (B) 3 km east, 5 km north
 (C) 5 km north east
 (D) 6 km south west
23. Complete the sequence :
 A, F, K, P, ____
- (A) U
 (B) J
 (C) L
 (D) M
24. Which letter comes next in the sequence ?
 A, D, G, J, M, ____
- (A) R
 (B) Q
 (C) P
 (D) S
25. Complete the sequence :
 Earth, Mars, Jupiter, Saturn, ____
- (A) Mercury
 (B) Neptune
 (C) Uranus
 (D) Venus
26. Place the following historical figures in the order they lived:
- (A) Albert Einstein (B) Leonardo da Vinci
 (C) Galileo Galilei (D) Isaac Newton
- Correct order :
- (A) ABCD
 (B) BCDA
 (C) DCBA
 (D) BACD
27. Decode the message :
 GUR PENML XRL VF ZL FRPERG
- Using the following cipher :
 A -> N; B -> O; C -> P; ..., Z -> M
- (A) HER FATHER WORE AN OLD COAT
 (B) THE HIDDEN CODE IS MY SECRET
 (C) HIS MOTHER TORE MY SHIRT
 (D) THE TEACHER TOOK SERIOUS NOTE
28. Identify the next number in the series :
 1, 4, 9, 16, 25, ____
- (A) 36
 (B) 40
 (C) 45
 (D) 49
29. Which of the following is an example of firmware ?
- (A) Operating system
 (B) Web browser
 (C) BIOS
 (D) Word processing software
30. Which of the following CPU components performs arithmetic operations ?
- (A) Control Unit
 (B) Arithmetic Logic Unit
 (C) Registers
 (D) Cache Memory
31. What is the primary function of the Domain Name System (DNS) ?
- (A) To provide email services
 (B) To translate domain names into IP addresses
 (C) To secure online transactions
 (D) To optimize website loading speed
32. Which file system format is commonly used in Windows ?
- (A) NTFS
 (B) FAT32
 (C) ext4
 (D) HFS

33. What is the output of an AND gate when both inputs are 1 ?
- (A) 0
(B) 1
(C) Depends on other inputs
(D) Invalid
34. What is the function of a NOT gate ?
- (A) To invert the input
(B) To amplify the input
(C) To add two inputs
(D) To multiply two inputs
35. Which country hosted the 2022 Winter Olympics ?
- (A) China
(B) Japan
(C) South Korea
(D) United States
36. Which country hosted the 2023 G20 Summit ?
- (A) UK
(B) China
(C) USA
(D) India
37. What is the process by which plants convert sunlight into energy ?
- (A) Respiration
(B) Photosynthesis
(C) Decomposition
(D) Fermentation
38. Which of the following types of energy is associated with an object's motion ?
- (A) Kinetic energy
(B) Potential energy
(C) Thermal energy
(D) Electrical energy
39. Which of the following football tournaments is the most prestigious at the international level ?
- (A) UEFA Champions League
(B) FIFA World Cup
(C) Copa America
(D) Premier League
40. Who is the only tennis player to achieve a "Golden Slam", winning all four Grand Slam tournaments and the Olympic gold medal in a single year ?
- (A) Steffi Graf
(B) Serena Williams
(C) Novak Djokovic
(D) Rafael Nadal
41. What is the antonym of the word "Fast" ?
- (A) Quick
(B) Slow
(C) Low
(D) Sharp
42. What is synonym of the word "Happy" ?
- (A) Sad
(B) Joyful
(C) Wonderful
(D) Tired
43. A person who studies the structure of the Earth's crust :
- (A) Geologist
(B) Astronomer
(C) Biologist
(D) Meteorologist
44. Idiom: "Bite off more than you can chew" :
- (A) To take on more responsibility than you can handle
(B) To eat quickly
(C) To be very hungry
(D) To have extra food

45. Painter : Brush :: Writer : ?
 (A) Paper
 (B) Pen
 (C) Book
 (D) Desk
46. "The beautiful scenery of the Himalayas _____ my breath."
 (A) Took away
 (B) Left unchanged
 (C) Enhanced greatly
 (D) Lost completely
47. Read the following statements and answer :
 "The greatest glory in living lies not in never falling, but in rising every time we fall." - Nelson Mandela.
 What does the above statement emphasize?
 (A) Avoiding failure
 (B) Achieving success
 (C) Perseverance and resilience
 (D) Giving up easily
48. "The new policy aims to promote sustainable agriculture practices, ensuring a balance between economic viability and environmental sustainability."
 What is the primary goal of the policy?
 (A) Economic growth
 (B) Environmental protection
 (C) Social justice
 (D) Sustainable development
49. Rearrange the words to form a meaningful sentence :
 "of / the / city / life / tired / I / am"
 (A) I am tired of the city life
 (B) The city life am I tired of
 (C) Tired of life, I am the city
 (D) Am I tired of city life
50. Rearrange the words to form a meaningful sentence :
 "by / next / the / project / will / week / be / completed"
 (A) The project will be completed by next week.
 (B) Next week the project will be completed.
 (C) By next week, the project will completed be.
 (D) Completed will be the project by next week.
51. Rearrange the sentences to form a coherent paragraph :
 S1 : The chef's special menu is a must-try.
 S2 : With its elegant ambience and exquisite cuisine, it has become a favorite among foodies.
 S3 : Located in the heart of the city, it is easily accessible.
 S4 : The new restaurant in town offers a unique dining experience.
 (A) S4-S3-S2-S1
 (B) S3-S1-S2-S4
 (C) S1-S3-S2-S4
 (D) S2-S1-S4-S3
52. Rearrange the sentences to form a coherent paragraph :
 S1 : To address this issue, the government has proposed a new metro line.
 S2 : The city's traffic congestion has become a major concern.
 S3 : The metro line will connect the city's outskirts to the central business district.
 S4 : This initiative is expected to reduce travel time and alleviate traffic.
 (A) S1-S2-S3-S4
 (B) S1-S3-S2-S4
 (C) S2-S1-S3-S4
 (D) S3-S2-S1-S4

53. Identify the correct form of the verb in the sentence : 58. Identify the incorrect word usage :
 “By the time I _____ my homework, it was already midnight.”
 (A) Have finished
 (B) Finish
 (C) Had finished
 (D) Was finishing
54. Identify the error in the sentence :
 “Every student in the class have their own laptop.”
 (A) Tense inconsistency
 (B) Subject-verb agreement
 (C) Pronoun ambiguity
 (D) Modifier placement
55. Identify the error in the sentence :
 “The teacher gave the homework to John and I.”
 (A) Subject-verb agreement error
 (B) Tense inconsistency
 (C) Incorrect pronoun usage
 (D) Wrong preposition usage
56. Identify the punctuation error in the sentence :
 “Let’s eat Grandma!”
 (A) Missing apostrophe
 (B) Incorrect comma usage
 (C) Missing comma
 (D) Incorrect exclamation mark usage
57. Identify the vocabulary error in the sentence :
 “The new policy will effect all employees starting next month.”
 (A) Incorrect verb tense
 (B) Wrong word choice
 (C) Inconsistent subject-verb agreement
 (D) Missing article
58. Identify the incorrect word usage :
 “The teacher reprimanded the student for his meticulous handwriting.”
 Which word is used inappropriately?
 (A) reprimanded
 (B) meticulous
 (C) handwriting
 (D) student
59. Identify the next number in the sequence :
 1, 2, 4, 7, 11, 16, 22, ?
 (A) 29
 (B) 30
 (C) 31
 (D) 32
60. A message is encrypted using Caesar Cipher with a shift of 3. What is the decrypted message ?
 Encrypted message : KHOOR ZRUOG
 (A) Happy Day
 (B) Good Bye
 (C) Hello World
 (D) Byebye Man