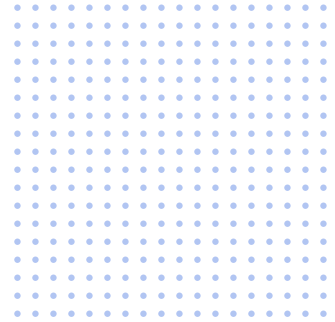




FOR KUET EXAM PREPARATION

KUET 2024 Question Paper · M.Sc. IT

EXAM	YEAR	TYPE	SUBJECT
KUET	2024	Question Paper	M.Sc. IT

Sr. No. 141.....

ENTRANCE TEST-2024**SCHOOL OF APPLIED SCIENCES AND TECHNOLOGY****M.Sc. (IT)****Question Booklet Series****A****Total Questions : 60****Time Allowed : 70 Minutes****Roll No. :**

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Instructions for Candidates :

1. Write your Entrance Test 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 Copy only.
4. Choose the correct / most appropriate response for each question among the options A, B, C and D and darken the circle of the appropriate response completely. The incomplete darkened circle is not correctly read by the OMR Scanner and no complaint to this effect shall be entertained.
5. 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.
6. Do not darken more than one circle of options for any question. A question with more than one darkened response shall be considered wrong.
7. There will be '**Negative Marking**' for wrong answers. Each wrong answer will lead to the deduction of 0.25 marks from the total score of the candidate.
8. Only those candidates who would obtain positive score in Entrance Test Examination shall be eligible for admission.
9. Do not make any stray mark on the OMR sheet.
10. Calculators and mobiles shall not be permitted inside the examination hall.
11. Rough work, if any, should be done on the blank sheets provided with the question booklet.
12. OMR Answer Sheet must be handled carefully and it should not be folded or mutilated in which case it will not be evaluated.
13. Ensure that your OMR Answer Sheet has been signed by the Invigilator and the candidate himself/herself.
14. 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.

SP-4504-A

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[Turn over]

1. We usually face hard times in our life. I think I need to put _____ some money for hard times.
 (A) over
 (B) up
 (C) away
 (D) into
2. Three out of the four words are same/similar in a certain way and so belong to a group. Choose the odd word that does not belong to the group :
 (A) Racket
 (B) Din
 (C) Cacophony
 (D) Cadence
3. Three out of the four words are same/similar in a certain way and so belong to a group. Choose the odd word that does not belong to the group :
 (A) Orange
 (B) Pink
 (C) Indigo
 (D) Green
4. Three out of the four words are same/similar in a certain way and so belong to a group. Choose the odd word that does not belong to the group :
 (A) Hypothesis
 (B) Assumption
 (C) Experiment
 (D) Observation
5. A single word equivalent for the statement '*Speak falsely with deliberate intent*' is :
 (A) equivocate
 (B) repudiate
 (C) spurn
 (D) disparage
6. Select the most appropriate alternative for the bold underlined idiom/phrase in the given sentence. The business partners now behave like enemies. They do not ***see eye to eye*** on all matters :
 (A) discuss matters with one another
 (B) agree with one another
 (C) fight with one another
 (D) want to see one another
7. The word '*connote*' is most similar to which of the following words ?
 (A) provoke
 (B) infer
 (C) agree
 (D) insinuate
8. Categorize the listed four sentences as Fact (F), Inference (I), or Judgement (J). Facts denoted as F, which deal with pieces of information that one has heard, seen or read, and which are open to discovery or verification.
 Inferences denoted as I, which are conclusions drawn about the unknown, on the basis of the known.
 Judgements denoted as J, which are opinions that imply approval or disapproval of persons, objects, situations and occurrences in the past, the present or the future :
 I. The audience responded well to the Animal Movie.
 II. The movie had a budget of 200 Crores and grossed 900 Crores globally.
 III. The movie was terrible; though the acting was superb but message conveyed was detrimental for the society.
 IV. The director won the best director award.
 (A) FFIF
 (B) IFIF
 (C) IFJF
 (D) JFJF



9. Slack : _____ :: plucky : courageous.
 (A) tight
 (B) silent
 (C) negligent
 (D) cowardly
10. Household chores are still not evenly distributed even in the _____ countries, but things are much better especially how people talk about it. A young man was _____ for asking a woman whether her husband helps with the child care. He does not help but does his share, she responded.
 (A) elitist, rebuked
 (B) egalitarian, rebuked
 (C) developed, rebuked
 (D) non-partisan, rebuked
11. Choose the word which is least like the other words :
 (A) Barber
 (B) Carpenter
 (C) Blacksmith
 (D) Tailor
12. If yellow means green, green means white, white means blue, blue means violet, violet means black then which of the following will be the colour of the sky ?
 (A) Black
 (B) Blue
 (C) White
 (D) None of these
13. In a certain coding language if $3=10$, $4=18$, $5=28$, then $23 = ?$
 (A) 551
 (B) 552
 (C) 553
 (D) 554
14. In the number 421579368, how many such pairs of digits are there, each having the same number of digits between them as when they are placed in ascending order ?
 (A) Two
 (B) Three
 (C) Four
 (D) Five
15. If North becomes South-West and South-West becomes East and all the rest directions are changed in the same manner, what will be the direction for the East ?
 (A) North-East
 (B) North
 (C) West
 (D) North-West
16. Complete the following series 1, 3, 6, 11, 18, 29 :
 (A) 40
 (B) 41
 (C) 42
 (D) 43

17. Find the missing number in the sequence: 4896, 3360, _____, 1320, 720.
- (A) 2184
(B) 2730
(C) 1716
(D) None of the above
18. A mobile seller sells mobile at 7000 per mobile. However, he gives two successive discounts of 8% and 5% respectively. But he recovers the sales tax on the net sale price from the customer at 5% of the net price. What price does one have to pay him to buy the mobile?
- (A) 6423.7
(B) 6423.9
(C) 6118.7
(D) 6118.9
19. In how many different ways can the letters of the word 'FRUSRUDWLRIA' be arranged so that the vowels always come together?
- (A) 725760
(B) 725770
(C) 725880
(D) 725890
20. A number which when divided by 3, 4, 5, 6 and 7 leaves the remainder 2, 3, 4, 5 and 6 respectively. Such smallest six-digit number is:
- (A) 100019
(B) 100379
(C) 100399
(D) None of these
21. Saurabh, Santosh and Kumar work in a software company at same positions. However, their salaries are different. Saurabh's salary to Santosh's salary and Santosh's salary to Kumar's salary are in the ratio 4:3. If the total salary of all the three employees is Rs. 29230, what is the salary of Kumar?
- (A) 7110 INR
(B) 9480 INR
(C) 8110 INR
(D) 10480 INR
22. In how many ways team of 12 developers out of 24 developers can be made if 7 particular developers are always to be included and 5 particular developers are always to be excluded from the team?
- (A) ${}^{24}C_{12}$
(B) ${}^{12}C_7$
(C) ${}^{12}C_5$
(D) ${}^{19}C_{12}$
23. If $\log_{10} 23 = y$ what does $\log_{10} 230000$ equal?
- (A) y
(B) $y + 229977$
(C) $y + 4$
(D) $y + \log(229977)$
24. If v, w, x are in H.P. w, x, y are in G.P. and x, y, z are in A.P. then $\frac{vx^2}{(2v-x)^2}$ is equal to:
- (A) w
(B) x
(C) y
(D) z

25. For all 'x', $x^2 + 2px + (10 - 3p) > 0$, then the interval in which 'p' lies is :
- (A) $p < -5$
 (B) $-5 < p < 2$
 (C) $p > 5$
 (D) $2 < p < 5$
26. The equations $a + 2b + 3c = 1$, $a - b + 4c = 0$, $2a + b + 7c = 1$ have :
- (A) only one solution
 (B) two solutions
 (C) no solution
 (D) infinitely many solutions
27. Five different scientists are to be transported to another place through a secret tunnel. 15 security guards in total are to be inserted between the two scientists with at least three guards between every two scientists. The number of ways it can be done is :
- (A) 2000
 (B) 2400
 (C) 2800
 (D) 3200
28. The number of terms in the expansion of $(1 - 3\sqrt{2}x)^9$ is:
- (A) 10
 (B) 15
 (C) 20
 (D) 25
29. The equation of the line through $(-2, 3)$ with slope -4 is :
- (A) $x + 4y - 5 = 0$
 (B) $4x + y + 5 = 0$
 (C) $x + y + 1 = 0$
 (D) $3x + 4y - 5 = 0$
30. If two lines are perpendicular, then product of their slopes is equal to :
- (A) $m_1 m_2 = -1$
 (B) $m_1 m_2 = 0$
 (C) $m_1 m_2 = 1$
 (D) Any value -1 to 1
31. Let R be a relation on the set N of natural numbers defined by nRm if n divides m . Then R is :
- (A) Reflexive, transitive and symmetric
 (B) Reflexive and symmetric
 (C) Transitive and symmetric
 (D) Reflexive, transitive but not symmetric
32. If the Set X contains 8 elements and Set Y contains 11 elements, then the number of one-one function from X to Y is :
- (A) ${}^{11}C_8$
 (B) ${}^{11}C_8 * 8!$
 (C) 11^8
 (D) 8^{11}
33. The number of all possible matrices of order 4×4 with each entry 0 or 1 is :
- (A) 16
 (B) 32
 (C) 64
 (D) None of the above

34. If A and B are two matrices such that $AB = B$ and $BA = A$, then $A^2 + B^2 = ?$
- (A) $A+B$
 (B) $2AB$
 (C) $(A+B)^2$
 (D) AB
35. The probability of drawing a King from a pack of 52 well shuffled deck of cards is :
- (A) $1/13$
 (B) $2/13$
 (C) $1/52$
 (D) $11/52$
36. The correlation coefficient is the _____ of two regression coefficients.
- (A) Arithmetic mean
 (B) Geometric mean
 (C) Harmonic mean
 (D) Median
37. Which measure of dispersion is considered to be best and easiest to calculate respectively ?
- (A) Range, Standard deviation
 (B) Interquartile range, variance
 (C) Variance, range
 (D) Standard deviation, range
38. Let A be a finite set of size n. The number of elements in the power set of $A \times A$ is :
- (A) 2^{2^n}
 (B) 2^{n^2}
 (C) n^2
 (D) 2^n
39. A square matrix is singular whenever :
- (A) The rows are linearly independent
 (B) The rows are linearly dependent
 (C) The columns are linearly independent
 (D) The columns are linearly dependent
40. The centres of a set of circles, each of radius 3, lie on the circle $x^2 + y^2 = 25$. The locus of any point with such circle is :
- (A) $4 \leq x^2 + y^2 \leq 64$
 (B) $x^2 + y^2 \leq 25$
 (C) $x^2 + y^2 \geq 25$
 (D) $3 \leq x^2 + y^2 \leq 9$
41. The process through which an illegitimate website pretends to be a specific legitimate website is known as :
- (A) Sniffing
 (B) Spoofing
 (C) Cloning
 (D) Phishing
42. In the carrier sense network, if prevailing condition is a 'channel busy' then which of the following technique is used ?
- (A) 1-persistent then channel is continuously sensed
 (B) Non-persistent then it results in randomised wait and sense
 (C) P-persistent then randomised retransmission is done
 (D) Both (A) and (B)



43. The HTTP request message is sent in ____ part of three-way handshake.
- (A) 1st
(B) 2nd
(C) 3rd
(D) None of the above
44. In a Class A subnet, IP address of one of the hosts and the mask is :
IP address: 25.34.12.56
Mask: 255.255.0.0
What is the first network address?
- (A) 25.0.0.0
(B) 25.34.0.0
(C) 25.34.12.0
(D) 25.34.12.56
45. Minimum average waiting time is possible in which of the following process scheduling algorithms?
- (A) First Come First Serve
(B) Shortest Job First
(C) Round Robin
(D) Time Sharing
46. A system uses 3-page frames and Least Recently Used (LRU) page replacement policy for storing process pages in main memory. What is the total number of page faults that will occur while processing the page reference string given below : 6241, 6271, 6261, 6211, 6271, 6261, 6211, 6221, 6271, 6221 assuming that all the page frames are initially empty ?
- (A) 4
(B) 5
(C) 6
(D) 7
47. Which of the following consists of bit-level striping with dedicated Hamming-code parity ?
- (A) RAID 2
(B) RAID 3
(C) RAID 4
(D) RAID 5
48. A, B and C are the decimal integers corresponding to the 4-bit binary number 1100 considered in signed magnitude, 1's complement, and 2's complement representation. The 6-bit 2's complement representation of (A+B+C) is :
- (A) 110010
(B) 110101
(C) 111101
(D) 111001
49. If we do not write our own construct; the following construct(s) will be automatically added to every class :
- (A) Copy Constructor
(B) Assignment Operator
(C) Constructor with a parameter
(D) All of the above
50. How many solutions are there for 8 queens on 8*8 board?
- (A) 64
(B) 92
(C) ${}^{64}C_8$
(D) ${}^{64}C_8 * 8$

51. The concept of locking can be used to solve the problem of:
1. Lost update
 2. Uncommitted dependency
 3. Inconsistent data
 4. Deadlock
- (A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) All can be solved
52. Insertion of a node in circular linked list requires modification of how many pointers?
- (A) 1
(B) 2
(C) Depends on the place of the node
(D) Multiple pointers need to be changed
53. Program Evaluation Review Technique analysis is based on:
- (A) optimistic time
(B) pessimistic time
(C) most likely time
(D) all of these
54. The for loop
- ```
for (i=0; i<10; ++i)
 printf("%d", i & 1);
```
- will print the following output:
- (A) 0000000000  
(B) 0101010101  
(C) 1010101010  
(D) 1111111111
55. A standard for performance established early in the project for later comparisons:
- (A) Baseline  
(B) Scopeline  
(C) Evaluation  
(D) Performance line
56. If A has x tuples and B has y tuples, then the maximum and minimum size of join between A and B is:
- (A)  $x + y, 0$   
(B)  $2(x + y), 0$   
(C)  $(x + y)/2, 0$   
(D)  $xy, 0$
57. In order to avoid writing additional SQL statements to update a live database, you instantiate an object of which class?
- (A) DataAdapter  
(B) DataReader  
(C) DataSet  
(D) DataProvider
58. Which of the following is not a colour specification format?
- (A) RGB  
(B) TGA  
(C) HSB  
(D) CIE

59. The process of determining the appropriate pixels for representing a picture is called as :
- (A) Rasterization  
(B) Rendering  
(C) Projection  
(D) Representation
60. Which HTML element defines text with strong importance ?
- (A) <b>  
(B) <mark>  
(C) <strong>  
(D) <i>