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Ph.D. ENTRANCE EXAMINATION, August-2026

Name of Candidate	Answer Sheet No.
Roll No. of the Candidate	Signature of the Candidate.....
Date of Examination	Signature of the Invigilator(s)
	1.
	2.

Time: 2 Hours**Maximum Marks: 100****IMPORTANT INSTRUCTIONS**

- i. The question paper is in the form of Test-Booklet containing **100 (Hundred)** questions. Each question may carry maximum four answer marked. (A), (B), (C) and (D) out of which only one is correct.
- ii. There are 100 multiple choice questions, each question carrying 1 mark. The test includes 50 questions of Research Methodology (Part A) and 50 questions of the subject/Domain (Part B).
- iii. On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **100** questions (50 in Part-A+50 in Part-B). Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.
- iv. A separate Answer- Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are 100 rows containing four circles each. One row pertains to one question.
- v. The candidate should write his/her roll number at the places provided on the cover page of the Test-Booklet/ Question Paper and on Answer Sheet and NOWHERE ELSE.
- vi. No second test -Booklet /Question Paper and Answer -Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.
- vii. For every correct answer of the question **One (1) mark will be awarded**. For every unattempted question/ wrong answer, zero (0) mark shall be awarded. **There is no Negative Marking**.
- viii. Marking shall be done only on the basis of answers responded on the Answer- Sheet.
- ix. To mark the answer on the Answer- Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.
- x. For each question, only one circle should be darkened as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.
- xi. The candidates should not remove any paper from the Test- Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.
- xii. Rough work may be done on the blank space provided in the Test- Booklet /Question Paper only.
- xiii. Mobile phones (even in Switch -off mode) and such other communication/ programmable devices are not allowed inside the examination hall.
- xiv. No candidate shall be permitted to leave the examination hall before the expiry of the time.

DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO

(PART-A)

1. Which of the following statements is true about the collection of data?
 - a. The data that is collected from the place of origin is known as primary data
 - b. The data that is collected from the place of origin is known as secondary data
 - c. The data that is collected from the place of origin is known as tertiary data
 - d. None of the above
2. Which of the following is the main point of difference between primary data and secondary data?
 - a. The collection of secondary data is costlier and more time consuming when compared to primary data
 - b. The secondary data is always original whereas the primary data is not
 - c. The primary data is much more reliable than secondary data because it is collected directly from respondents
 - d. None of the above
3. Which of the following is an example of qualitative data?
 - a. Temperature readings in Celsius
 - b. Monthly income in dollars
 - c. Transcript of an interview
 - d. Total population count
4. How is qualitative data usually analyzed?
 - a) By using statistical formulas and graphs
 - b) By finding themes, patterns, and categories
 - c) By running computer software for percentages
 - d) By measuring numerical weight or length
5. Which graph is used to show cumulative frequency?
 - a) Bar graph
 - b) Ogive
 - c) Histogram
 - d) Pie chart
6. Which chart is most suitable to show the comparison of parts to a whole?
 - a) Line graph
 - b) Histogram
 - c) Frequency polygon
 - d) Pie chart
7. In a moderately asymmetrical (skewed) distribution, what is the empirical relationship between mean, median, and mode?
 - a. $\text{Mean} - \text{Mode} = 3(\text{Mean} - \text{Median})$
 - b. $\text{Mean} = \text{Median} + \text{Mode}$
 - c. $\text{Mode} = 3\text{Mean} - 2\text{Median}$
 - d. $\text{Median} = \text{Mean} / \text{Mode}$
8. Which measure of central tendency includes the magnitude of scores?
 - a. Mean
 - b. Mode
 - c. Median
 - d. Range
9. What is the mean of the following numbers: 23, 45, 87, 40, 50?
 - a. 59
 - b. 49
 - c. 56
 - d. 39

10. Which of the following are methods under measures of dispersion?
- Standard deviation
 - Mean deviation
 - Range
 - All of the above
11. _____ and _____ are types of measures of dispersion.
- Nominal, Real
 - Nominal, Relative
 - Absolute, Relative
 - Real, Relative
12. The standard deviation of a set of 90 observations is 105. If the value of each observation is decreased by 9, then the new standard deviation of these observations would be _____.
- 96
 - 105
 - 100
 - None of the above
13. The average of squared deviations from the arithmetic mean is known as _____.
- Quartile deviation
 - Standard deviation
 - Variance
 - None of the above
14. If Mohan secures 97 percentiles in an examination, it means that his position is below _____ of the total candidates who had appeared in the exam.
- 97 percent
 - 3 percent
 - 90 percent
 - None of the above
15. Which of the following cannot be calculated for open-ended distributions?
- Standard deviation
 - Mean deviation
 - Range
 - None of the above
16. The interquartile range (IQR) is calculated as:
- $Q3 - Q1$
 - $Q3 + Q1$
 - $Q1 - Q3$
 - $Q1 \times Q3$
17. Which of the following statements is TRUE?
- Standard deviation is less reliable than range.
 - Mean deviation uses all scores.
 - Quartile deviation uses the entire dataset.
 - Range uses all scores.
18. If range is 20 and the smallest value is 5, the largest value is:
- 25
 - 15
 - 30
 - Cannot be determined
19. A distribution with low variability is considered:
- Scattered
 - Skewed
 - Consistent
 - Unreliable

20. Coefficient of variation is helpful in:
- Finding mode
 - Comparing variability between two datasets
 - Identifying mean
 - Finding median
21. If the variance is 16, then the standard deviation is:
- 8
 - 4
 - 2
 - 16
22. Kurtosis is a measure of:
- Central tendency
 - Dispersion
 - Symmetry
 - Skewness
23. Choose the correct option concerning the correlation analysis between 2 sets of data.
- Multiple correlations is a correlational analysis comparing two sets of data.
 - A partial correlation is a correlational analysis comparing two sets of data.
 - A simple correlation is a correlational analysis comparing two sets of data.
 - None of the preceding.
24. Which one of the below statements regarding the regression line is correct?
- The prediction equation is another name for a regression line.
 - A regression line is also referred to as the line of the average relationship.
 - The estimating equation is another name for a regression line.
 - All of the above.
25. Who introduced the term 'regression'?
- Karl Pearson
 - R.A Fischer
 - Croxtan and Cowden
 - Francis Galton.
26. Company A produces 10% defective products, Company B produces 20% defective products and C produces 5% defective products. If choosing a company is an equally likely event, then find the probability that the product chosen is defective.
- 0.12
 - 0.21
 - 0.22
 - 0.11
27. A well-defined research problem helps the researcher most by:
- Determining the exact budget
 - Guiding the selection of the research design and methods
 - Eliminating the need for a literature review
 - Guaranteeing publication in a journal
28. Why is a literature review critical during problem formulation?
- It proves that your bias is correct
 - It helps reveal gaps and inconsistencies in existing knowledge
 - It provides unrelated background facts
 - It replaces the need to state research objectives
29. Which of the following statement is correct?
- Reliability ensures the validity
 - Validity ensures reliability
 - Reliability and validity are independent of each other
 - Reliability does not depend on objectivity

30. The study in which the investigators attempt to trace an effect is known as:
- Survey Research
 - Summative Research
 - Historical Research
 - 'Ex-post Facto' Research
31. Generalized conclusion on the basis of a sample is technically known as:
- Data analysis and interpretation
 - Parameter inference
 - Statistical inference
 - All of the above
32. Authenticity of a research finding is its:
- Originality
 - Validity
 - Objectivity
 - All of the above
33. Which technique is generally followed when the population is finite?
- Area Sampling Technique
 - Purposive Sampling Technique
 - Systematic Sampling Technique
 - None of the above
34. Research problem is selected from the stand point of:
- Researcher's interest
 - Social relevance
 - Financial support
 - Availability of relevant literature
35. The research is always –
- Verifying the old knowledge
 - Exploring new knowledge
 - Filling the gap between knowledge
 - All of these
36. Manipulation of independent variable is always a part of
- Historical research
 - Fundamental research
 - Descriptive research
 - Experimental research
37. The Factorial Analysis is used:
- To know the relationship between two variables
 - To know the difference among the many variables
 - To know the difference between two variables
 - To test the Hypothesis
38. Which of the following is classified in the category of the developmental research?
- Philosophical research
 - Action research
 - Descriptive research
 - All the above
39. What is the name of the conceptual framework in which the research is carried out?
- Research hypothesis
 - Research design
 - Research paradigm
 - Synopsis of Research

40. Which of the following features are considered as critical in qualitative research?
- Collecting data with the help of standardized research tools.
 - Design sampling with probability sample techniques.
 - Collecting data with bottom-up empirical evidence.
 - Gathering data with top-down schematic evidence.
41. Tippet table refers to as _____
- Table of random digits
 - The table used in sampling methods
 - The table used in statistical investigations
 - All of the above
42. What are the conditions in which Type-I error occurs?
- The null hypotheses get accepted even if it is false
 - The null hypotheses get rejected even if it is true
 - Both the null hypotheses as well as alternative hypotheses are rejected
 - None of the above
43. Research and Development become the index of development of the country. Which of the following reasons are true with regards to this statement?
- R&D targets human development
 - R&D can enhance people's standard of living in the country
 - R&D reflects the actual economic and social conditions being prevailed in the country
 - All the above
44. What is the main aim of interdisciplinary research?
- To over simplify the problem of research
 - To bring out the holistic approach to research
 - To create a new trend in research methodology
 - To reduce the emphasis on a single subject in the research domain
45. A researcher is interested in studying the prospects of a particular political party in an urban area. So, what tool should he prefer for the study?
- Rating Scale
 - Interview
 - Questionnaire
 - Schedule
46. The conclusions/findings of which type of research cannot be generalized to other situations?
- Casual Comparative Research
 - Historical Research
 - Descriptive Research
 - Experimental Research
47. Which one is called non-probability sampling?
- Quota sampling
 - Cluster sampling
 - Systematic sampling
 - Stratified random sampling
48. What are the core elements of a dissertation?
- Introduction; Data Collection; Data Analysis; Conclusions and Recommendations
 - Executive Summary; Literature Review; Data Gathered; Conclusions; Bibliography
 - Research Plan; Research Data; Analysis; References
 - Introduction; Literature Review; Research Methodology; Results; Discussions and Conclusions
49. The "Sociogram" technique is used to study _____
- Vocational Interest
 - Human Relations
 - Professional Competence
 - Achievement Motivation

50. Action-research can be understood as _____
- A longitudinal research
 - An applied research
 - A kind of research being carried out to solve a specific problem
 - All of the above

(PART-B)

51. A system uses a 32-bit virtual address and a page size of 4 KB (2^{12} bytes). If each page table entry (PTE) takes 4 bytes, what is the size of a single-level page table for a process?
- 1 MB
 - 4 MB
 - 2 MB
 - 512 KB
52. In a binary Hamming Code the number of check digits is r then number of message digits is equal to:
- $2^r - 1$
 - $2^r - r - 1$
 - $2^r - r + 1$
 - $2^r + r - 1$
53. The travelling salesman problem can be solved in:
- Polynomial time using dynamic programming algorithm
 - Polynomial time using branch-and-bound algorithm
 - Exponential time using dynamic programming algorithm or branch-and-bound algorithm
 - Exponential time using dynamic programming algorithm or branch-and-bound algorithm
54. Let $A = \{1, 2, 3\}$. How many total reflexive relations can be defined on set A ?
- 2^3
 - 2^6
 - 2^9
 - 3^2
55. The general solution to the homogeneous recurrence relation $a_n = 5a_{n-1} - 6a_{n-2}$ is:
- $a_n = c_1(2)^n + c_2(3)^n$
 - $a_n = c_1(5)^n + c_2(6)^n$
 - $a_n = (c_1 + c_2n)(2)^n$
 - $a_n = c_1(-2)^n + c_2(-3)^n$

56. What is the minimum number of standard queues (FIFO) required to implement a stack (LIFO) where either push or pop is $O(1)$ and the other is $O(n)$?
- 1
 - 2
 - 3
 - Cannot be implemented with queues
57. How many 4×1 Multiplexers (without enable inputs) are required to construct a 16×1 Multiplexer?
- 4
 - 6
 - 5
 - 7
58. Which OS architecture feature allows multiple jobs to reside simultaneously in main memory to maximize CPU utilization?
- Multiprocessing
 - Multiprogramming
 - Spooling
 - Multithreading
59. What is the primary function of an operating system kernel during system execution?
- Managing hardware resources and processes
 - Designing user graphical interfaces
 - Executing network routing protocols
 - Compiling high-level programming code
60. Which statistical measure represents the middle value in an ordered set of observations?
- Mean
 - Median
 - Mode
 - Standard Deviation
61. In Requirements Engineering, which document bridges the gap between client expectations and system design, serving as the official agreement?
- High-Level Design Document (HLD)
 - Project Management Plan (PMP)
 - Software Requirements Specification (SRS)
 - Test Plan Document

62. What is an associative (junction) table used for?
- (a) To store logs
 - (b) To cache queries
 - (c) To implement many-to-many queries
 - (d) To backup data
63. What device inspects incoming and outgoing network traffic and decides whether to block or allow it based on rules?
- (a) Hub
 - (b) Switch
 - (c) Firewall
 - (d) Router
64. What is the primary function of an operating system kernel during system execution?
- (a) Managing hardware resources and processes
 - (b) Designing user graphical interfaces
 - (c) Executing network routing protocols
 - (d) Compiling high-level programming code
65. Which statement correctly differentiates between Software Verification and Validation?
- a. Verification happens after deployment; Validation happens during coding.
 - b. Verification ensures the user is happy; Validation ensures the developers are happy.
 - c. Verification asks "Are we building the product right?"; Validation asks "Are we building
 - d. There is no difference between them.
66. Which of the following is a key characteristic of a B+ Tree compared to a standard B-Tree?
- a. Keys in internal nodes store actual data records.
 - b. All leaf nodes are linked together in a doubly/singly linked list for efficient range scans.
 - c. nodes have no search keys.
 - d. It cannot handle multi-attribute indexing.
67. A 4-bit synchronous binary counter is currently in state 1011 (11_{10}). What will be the state after 7 clock pulses?
- (a) 0010 (2_{10})
 - (b) 0011 (3_{10})
 - (c) 1110 (14_{10})
 - (d) 0001 (1_{10})
68. What condition occurs when two or more concurrent threads read and write shared data, and the final outcome depends on the order of execution?

- (a) Deadlock
- (b) Starvation
- (c) Race Condition
- (d) Aging

69. Consider the following transactions with data items P and Q initialized to zero:

```
T1: read (P) ;  
    read (Q) ;  
    if P = 0 then Q := Q + 1 ;  
    write (Q) ;  
T2: read (Q) ;  
    read (P) ;  
    if Q = 0 then P := P + 1 ;  
    write (P) ;
```

Any non-serial interleaving of T1 and T2 for concurrent execution leads to

- (a) A serializable schedule
- (b) A schedule that is not conflict serializable
- (c) A conflict serializable schedule
- (d) A schedule for which a precedence graph cannot be drawn

70. What is cross-validation used for in machine learning?

- (a) Cross-training different models
- (b) Evaluating model performance on multiple datasets
- (c) Testing a model's generalization ability
- (d) Selecting hyperparameters

71. A control flow graph of a module contains 14 nodes and 18 directed edges. What is the minimum number of independent execution paths required to achieve full basis path coverage?

- (a) 5
- (b) 4
- (c) 8
- (d) 6

72. A model that performs well on training data but fails to generalize to unseen test data suffers from:
- (a) Underfitting
 - (b) Overfitting
 - (c) High bias
 - (d) Dimensional reduction
73. Which of the following statements are TRUE about an SQL query? P : An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause Q : An SQL query can contain a HAVING clause only if it has a GROUP BY clause R : All attributes used in the GROUP BY clause must appear in the SELECT clause S : Not all attributes used in the GROUP BY clause need to appear in the SELECT clause
- (a) P and R
 - (b) P and S
 - (c) Q and R
 - (d) Q and S
74. Which ML technique is used in spam email detection?
- (a) Clustering
 - (b) Classification
 - (c) Reinforcement Learning
 - (d) Regression
75. In a linear programming problem, if the primal problem has an unbounded objective function, what is the definitive status of its dual problem, and how does this affect the feasible region of the dual?
- (a) The dual has a unique optimal solution, and its feasible region is bounded.
 - (b) The dual is also unbounded, and its feasible region is unbounded.
 - (c) The dual is infeasible, and its feasible region is empty.
 - (d) The dual has multiple optimal solutions, and its feasible region is non-empty.
76. In an AVL tree of height h (where a single node has height 0), what is the recurrence relation for the minimum number of nodes $N(h)$?
- (a) $N(h) = 2N(h-1) + 1$
 - (b) $N(h) = N(h-1) + N(h-2) + 1$
 - (c) $N(h) = N(h/2) + O(1)$
 - (d) $N(h) = N(h-1) + h$

77. A byte-addressable system has a 32-bit physical address space, a 64 KB 4-way set-associative cache, and a block (line) size of 64 bytes. What are the widths of the **Tag**, **Set Index**, and **Word Offset** fields?

- (a) Tag: 18 bits, Index: 8 bits, Offset: 6 bits
- (b) Tag: 16 bits, Index: 10 bits, Offset: 6 bits
- (c) Tag: 20 bits, Index: 6 bits, Offset: 6 bits
- (d) Tag: 18 bits, Index: 6 bits, Offset: 8 bits

78. In a Symmetric Multiprocessing (SMP) architecture, what is a primary challenge regarding cache consistency across multiple CPU cores?

- (a) Priority Inversion
- (b) Belady's Anomaly
- (c) Cache Coherency
- (d) Internal Fragmentation

79. Consider the following relational schema:

Suppliers(sid:integer, sname:string, city:string, street:string)

Parts(pid:integer, pname:string, color:string)

Catalog(sid:integer, pid:integer, cost:real)

Consider the following relational query on the above database:

```
SELECT S.sname
FROM Suppliers S
WHERE S.sid NOT IN (SELECT C.sid
                    FROM Catalog C
                    WHERE C.pid NOT IN (SELECT P.pid
                                       FROM Parts P
                                       WHERE P.color <> 'blue'))
```

Assume that relations corresponding to the above schema are not empty. Which one of the following is the correct interpretation of the above query?

- (a) Find the names of all suppliers who have supplied a non-blue part.
- (b) Find the names of all suppliers who have not supplied a non-blue part.
- (c) Find the names of all suppliers who have supplied only blue parts.
- (d) Find the names of all suppliers who have not supplied only blue parts.

80. Activities P, Q, and R instantly follow activity M, and their current starting times are 12, 19, and 10.

So, what is the latest finishing time for activity M?

- (a) 11
- (b) 10
- (c) 18
- (d) cannot be determined

81. Which testing technique relies entirely on analyzing the internal logic, structure, and path execution of the source code?

- (a) Black-box testing
- (b) White-box testing
- (c) Acceptance testing
- (d) Beta testing

82. In a raster-scan display system with a resolution of 1024 X 768 pixels and 24 bits per pixel (true color), what is the minimum frame buffer memory required?

- (a) 2.25 MB
- (b) 0.75 MB
- (c) 18.0 MB
- (d) 6.75 MB

83. Consider three processes P1, P2, P3 that arrive simultaneously at time $t = 0$ with CPU burst times of 8 ms, 4 ms, and 2 ms, respectively. Using the non-preemptive Shortest Job First (SJF) scheduling algorithm, what is the average waiting time?

- (a) 2.67 ms
- (b) 4.0 ms
- (c) 4.67 ms
- (d) 8.0 ms

84. Which technique helps prevent overfitting in decision trees?

- (a) Bagging
- (b) Pruning
- (c) Dropout
- (d) Gradient Descent

85. In a Go-Back-N ARQ protocol, the sequence numbers range from 0 to $2^k - 1$. What is the maximum sender window size?
- (a) 2^k
 - (b) $2^k - 1$
 - (c) 2^{k-1}
 - (d) $2^{k-1} - 1$
86. Dijkstra's single-source shortest path algorithm implemented with a Min-Heap (Binary Heap) on a graph with V vertices and E edges runs in:
- (a) $O(V^2)$
 - (b) $O(E \log V)$
 - (c) $O(V + E)$
 - (d) $O(V \cdot E)$
87. Which of the following events is classified as a synchronous internal exception rather than an asynchronous hardware interrupt?
- (a) A key press on a USB keyboard
 - (b) Completion of a disk read operation
 - (c) A Divide-by-Zero error or Page Fault during instruction execution
 - (d) A periodic timer tick generated by the system clock
88. What is the worst-case time complexity of finding the maximum element in a Max-Heap containing n elements, and finding the minimum element in the same Max-Heap, respectively?
- a. $O(1)$ and $O(1)$
 - b. $O(1)$ and $O(\log n)$
 - c. $O(1)$ and $O(n)$
 - d. $O(\log n)$ and $O(n)$
89. In E-R model, Y is the dominant entity and X is subordinate entity
- (a) None of the above
 - (b) If Y is deleted, then X is also deleted
 - (c) If Y is deleted, then X is not deleted
 - (d) If X is deleted, then Y is also deleted

90. Time estimates of an activity in a PERT network are: Optimistic time $t_0=9$ days, pessimistic time $t_p=21$ days and most likely time $t_m=15$ days. The approximate probability of completion of this activity is 13 days is:
- (a) 64%
 - (b) 50%
 - (c) 16%
 - (d) 34%
91. What critical metric is measured using Cyclomatic Complexity?
- (a) Project development cost
 - (b) The structural complexity and number of independent paths through source code
 - (c) Total end-user satisfaction rate
 - (d) Database table limits
92. A system has 4 processes sharing 12 units of the same resource type. If each process needs at most k units to complete its execution, what is the maximum value of k that guarantees deadlock-free operation?
- (a) 3
 - (b) 4
 - (c) 5
 - (d) 6
93. What is the purpose of word embeddings in NLP?
- a. To reduce stopwords
 - b. To tokenize text
 - c. improve grammar checking
 - d. To convert words into numeric vectors
94. Which spatial filtering operation is performed by subtracting a blurred version of an image from the original image and adding a weighted portion of the result back to the original?
- (a) Unsharp masking and high boost filtering
 - (b) Homomorphic filtering and illumination correction
 - (c) Median filtering and order-statistic denoising
 - (d) Laplacian pyramid decomposition and downsampling
95. A binary search tree is constructed by inserting the following elements one by one into an initially empty tree: 25, 14, 38, 10, 20, 30, 45, 18, 22

What is the height of the resulting binary search tree, assuming the height of a single-node tree is defined as 0?

- (a) 2
- (b) 3
- (c) 4
- (d) 5

96. The 0/1 Knapsack Problem with integer weights can be solved using Dynamic Programming in $O(nW)$ time, where n is the number of items and W is the maximum capacity. This running time is classified as:

- (a) Polynomial time
- (b) Pseudo-polynomial time
- (c) Strongly polynomial time
- (d) Exponential time in n and W

97. An organization is allocated the IP block 192.168.16.0/20. The network administrator wants to divide this block into 8 subnets of equal size. What is the subnet mask and the maximum number of usable host IP addresses per subnet?

- (a) Subnet Mask: 255.255.248.0, Usable Hosts: 2046
- (b) Subnet Mask: 255.255.255.0, Usable Hosts: 254
- (c) Subnet Mask: 255.255.240.0, Usable Hosts: 4094
- (d) Subnet Mask: 255.255.224.0, Usable Hosts: 1022

98. In RDBMS, different classes of relations are created using _____ technique to prevent modification anomalies.

- (a) Functional Dependencies
- (b) Data integrity
- (c) Referential integrity
- (d) Normal Forms

99. Consider the following statements regarding PERT and CPM:

I. PERT is event-oriented while CPM is activity-oriented.

II. PERT is primarily concerned with time while CPM is concerned with time as well as cost and resource allocation. Choose the correct option:

- (a) Both statements I and II are incorrect

- (b) Only statement I is correct
- (c) Only statement II is correct
- (d) Both statements I and II are correct

100. Consider the following two transactions:

T_1 : $R_1(A)$; $W_1(A)$; $R_1(B)$; $W_1(B)$;

T_2 : $R_2(B)$; $W_2(B)$; $R_2(A)$; $W_2(A)$;

A schedule S is formed as:

S: $R_1(A)$; $R_2(B)$; $W_1(A)$; $W_2(B)$; $R_1(B)$; $R_2(A)$; $W_1(B)$; $W_2(A)$;

Which of the following is true about schedule S?

- a) S is conflict-serializable and equivalent to the serial schedule $T_1 \rightarrow T_2$.
- b) S is conflict-serializable and equivalent to the serial schedule $T_2 \rightarrow T_1$.
- c) S is not conflict-serializable due to a cycle in its precedence graph.
- d) S is view-serializable but not conflict-serializable.

=== END OF PAPER ===

Answer Key of Research Methodology

- 1. a**
- 2. c**
- 3. c**
- 4. b**
- 5. b**
- 6. d**
- 7. a**
- 8. a**
- 9. b**
- 10. d**
- 11. c**
- 12. b**
- 13. c**
- 14. b**
- 15. b**
- 16. a**
- 17. b**
- 18. a**
- 19. c**
- 20. b**
- 21. b**
- 22. d**
- 23. c**
- 24. d**
- 25. d**

- 26. a**
- 27. b**
- 28. b**
- 29. c**
- 30. d**
- 31. a**
- 32. c**
- 33. c**
- 34. b**
- 35. d**
- 36. d**
- 37. b**
- 38. d**
- 39. b**
- 40. c**
- 41. d**
- 42. b**
- 43. d**
- 44. b**
- 45. c**
- 46. b**
- 47. a**
- 48. d**
- 49. b**
- 50. c**

Answer Key (Skill Department of Computer Science Engineering)

51	B
52	B
53	C
54	B
55	A
56	B
57	C
58	B
59	A
60	B
61	C
62	C
63	C
64	A
65	C
66	B
67	A
68	C
69	B
70	C
71	D
72	B
73	B
74	B
75	C

76	B
77	A
78	C
79	D
80	A
81	B
82	A
83	A
84	B
85	B
86	B
87	C
88	C
89	B
90	C
91	B
92	B
93	D
94	A
95	B
96	B
97	A
98	D
99	D
100	C