

Seat No.

Total No. of Pages : 13

Ph.D. Entrance Examination
COMPUTER SCIENCE
Subject Code : 58802

Day and Date : Tuesday, 12-11-2024**Total Marks : 100****Time : 04.00 pm to 06.00 pm**

Instruction :

- 1) SECTION I have 25 questions and 50 marks.
 - 2) SECTION II have 25 questions and 50 marks.
 - 3) Total 50 questions and each question have 2 marks.
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SECTION-I

- Q1. A research problem is feasible only when
- a) It has utility and relevance
 - b) It is new and adds something to knowledge.
 - c) It is researchable
 - d) All of the above
- Q2. A research intends to explore the result of possible factors for the organization of effective mid-day meal interventions. Which research method will be most appropriate for this study?
- a) Descriptive survey method
 - b) Historical method
 - c) Ex-post facto method
 - d) Experimental method

- Q3. The purpose of research is to help in the process of developing a clear and precise statement of the research problem rather than in providing a definitive answer.
- a) Marketing
 - b) Causal
 - c) Exploratory
 - d) Descriptive
- Q4. The point where the Null Hypothesis gets rejected is called as?
- a) Significant Value
 - b) Rejection Value
 - c) Acceptance Value
 - d) Critical Value
- Q5. What are the core elements of a dissertation?
- a) Introduction: Data Collection: Data Analysis. Conclusions and Recommendations
 - b) Executive Summary: Literature Review: Data Gathered; Conclusions: Bibliography
 - c) Research Plan, Research Data: Analysis: References
 - d) Introduction; Literature Review: Research Methodology, Results: Discussions and Conclusions
- Q6. A systematic step-by-step procedure following logical process of reasoning is called
- a) experiment
 - b) observation
 - c) deduction
 - d) scientific method
- Q7. Which one of the following belongs to the category of good research ethics?
- a) publishing the same paper in two research journals without telling the editors.
 - b) conducting a review of the literature that acknowledges the contributions of other people in the relevant field or relevant prior work.

- c) trimming outliers from a data set without discussing your reasons in a research paper.
- d) Including a colleague as an author on a research paper in return for a favor even though the colleague did not make a serious contribution to the paper.

Q.8 Mr Deepak Mohan walks 5 km towards the south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. What direction is he facing right now?

- a) West
- b) South
- c) North-East
- d) South-West

Q.9 Pointing to a photograph, a man said, "I have a brother, and that man's father is my father's son." Whose photograph was it?

- a) his son
- b) his own
- c) his father
- d) his nephew

Q.10 RQP, ONM, IHG, FED, find the missing letters.

- a) CDE
- b) LKI
- c) LKJ
- d) BAC

Q.11 In order to augment the accuracy of the study a researcher

- a) Should be honest and unbiased
- b) Should increase the size of the sample
- c) Should keep the variance high
- d) All of the above

- Q.12 Which of the following are benefits of Data Processing?
- a) Cost Reduction
 - b) Time Reductions
 - c) Smarter Business Decisions
 - d) All of the above
- Q.13 is the class of decision problems that can be solved by non-deterministic polynomial algorithms
- a) NP
 - b) P
 - c) Hard
 - d) Complete
- Q.14 In optimization problem, the objective function, reflects a single quantity to be
- a) Maximized
 - b) Minimized
 - c) either maximized or minimized.
 - d) None of the above
- Q.15 Which one of the following refers to querying the unstructured textual data?
- a) Information access
 - b) Information update
 - c) Information retrieval
 - d) Information manipulation
- Q.16 Which of the following can be considered as the classification or mapping of a set or class with some predefined group or classes?
- a) Data set
 - b) Data Characterization
 - c) Data Sub Structure
 - d) Data Diserunination

- Q.17 What is the main benefit of using a design pattern?
- a) It reduces the total codebase
 - b) It allows for the separation of responsibilities
 - c) It ensures that the code is easier to understand and debug
 - d) All of these.
- Q.18 Dijkstra's algorithm gives
- a) single source shortest path
 - b) all pairs shortest path
 - c) peer to peer shortest path
 - d) None of these
- Q.19 What is a key advantage of using Cloud-based research tools in terms of collaboration?
- a) Restricted access to tools for security reasons
 - b) Limited sharing of research outcomes
 - c) Enhanced collaboration through real-time sharing and access
 - d) Slower communication among research team members
- Q.20 In the field of finance, how can Big Data be utilized to detect fraudulent activities?
- a) By decreasing the frequency of data analysis
 - b) By relying solely on traditional methods
 - c) By analyzing large volumes of transaction data for anomalies
 - d) By ignoring real-time data processing

- Q.21 What is the primary objective of unsupervised learning in machine learning?
- a) Predicting a target variable
 - b) Finding hidden patterns or structures in data
 - c) Classifying input data into categories
 - d) Minimizing the error between predicted and actual values
- Q.22 What advantage does the open-source nature of Weka and R offer to researchers?
- a) Limited access to community support
 - b) Increased dependence on proprietary solutions
 - c) Flexibility for customization and collaboration
 - d) Reduced capability for handling large datasets
- Q.23 In the context of Big Data, what is the purpose of the MapReduce programming model?
- a) To process and analyze large datasets in parallel
 - b) to create detailed maps of data sources
 - c) To minimize data storage requirements
 - d) To visualize data patterns effectively
- Q.24 The problem of finding hidden structure in unlabeled data is called-
- a) supervised learning
 - b) unsupervised learning
 - c) reinforcement learning
 - d) none of above

- Q.25 In following type of feature selection method we start with empty feature set.
- a) forward feature selection
 - b) backward feature selection
 - c) middle feature selection
 - d) none of above

SECTION-II

- Q.26 Which cloud computing concept allows resources to matematically scale up or down based on demand, ensuring oprimal performance and cost efficiency?
- a) Elasticity
 - b) Virtualization.
 - c) Fault Tolerance
 - d) Load Balancing
- Q.27 There are normally keywords are available in C
- a) 255
 - b) 1024
 - c) 512
 - d) 32
- Q.28. A web service is a function call over the
- a) Internet
 - b) Application
 - c) Project
 - d) None of these
- Q.29 MVC is composed of three components.....
- a) Member Vertical Controller
 - b) Model Variable Centered
 - c) Model View Controller
 - d) Member Vertical Controller

- Q.30 Reviews can be categorized as
- a) formal design reviews and expert reviews
 - b) formal design reviews and peer reviews
 - c) informal design reviews and peer reviews
 - d) None of these
- Q.31 Which of the following stores the picture information as a charge distribution behind the phosphor coated screen?
- a) Direct-view storage tube
 - b) Flat panel displays
 - c) 3D viewing device
 - d) Cathode ray tube
- Q.32 The performance of cache memory is frequently measured in terms of a quantity called
- a) miss ratio
 - b) hit ratio
 - c) latency ratio
 - d) read ratio
- Q.33 Choose a disadvantage of decision trees among the following.
- a) decision trees are robust to outliers
 - b) factor analysis
 - c) decision trees are prone to overfit
 - d) all of these
- Q.34 Association rules are always defined on attribute
- a) binary
 - b) single
 - c) relational
 - d) multidimensional

- Q. 35 In data warehouse..... are completely normalized
- a) magic tables
 - b) fact tables
 - c) join tables
 - d) connected tables
- Q.36 What approach is being followed in Floyd Warshail Algorithm?
- a) Dynantic Programmning
 - b) Greedy Technique
 - c) Linear Programming
 - d) Backtracking.
- Q.37 You can create an emulator to simulate the configuration of a particular type of Android device using a tool like
- a) Theme Editor
 - b) Android SDK Manager
 - c) AVD manager
 - d) Virtual Editor
- Q.38 Grammars that can be translated to DFAS
- a) Left linear grammar
 - b) Right linear grammar
 - c) Generic grammar
 - d) All of these
- Q.39 High entropy means that the partitams in classificanon are
- a) pure
 - b) not pure
 - c) useful
 - d) useless

- Q.40 Which one of the following is not a software process quality?
- a) Visibility
 - b) Timeliness
 - c) Productivity
 - d) Portability
- Q.41 Conventional cryptography is also known as or symmetric-key encryption.
- a) Secret key
 - b) public key
 - c) protected key
 - d) primary key
- Q.42 What is a node
- a) A Blockchain
 - b) An exchange
 - c) A type of cryptocurrency
 - d) A computer on a Blockchain network
- Q.43 A device which can be connected to a network without using cable is called
- a) internet society
 - b) internet service provider
 - c) different computer
 - d) internet architecture board
- Q.44 What is the purpose of the "super" keyword in Java?
- a) It refers to the superclass of a class.
 - b) It is used to denote a method that can be overridden in a subclass
 - c) It indicates the end of a class definition
 - d) It specifies a variable with a constant value

- Q.45 In Hibernate, what is the purpose of the Hiberarle Query Language (HQL?)
- a) Defining the structure of XML documents.
 - b) Managing network connections in Java programs.
 - c) Providing a way to express database queries in an object-oriented manner.
 - d) Configuring the appearance of graphical user interfaces.
- Q.46 What is the purpose of the Android RecyclerView in user interface development?
- a) It represents a single entry point for an Android application b
 - b) It manages database connections in Android applications.
 - c) It displays a scrolling list of elements efficiently.
 - d) It defines the lifecycle of an Android application.
- Q.47 In the context of PHP frameworks, what is the purpose of Composer?
- a) A web server
 - b) A dependency manager
 - c) A database management tool
 - d) A template engine
- Q.48 What is the purpose of a confusion matrix in the context of classification models?
- a) Feature selection
 - b) Evaluating model performance
 - c) Data cleaning
 - d) Hyperparameter tuning

Q.49 Which of the following memory management schemes suffer from internal fragmentation?

- a) Multiple variable partition
- b) paging
- c) Multiple fixed-partition
- d) Segmentation

Q.50 Which of the following is not a valid scanning method?

- a) Xmas Tree scan
- b) Cloud scan
- c) Null Scan
- d) SYN Stealth scan

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- ROUGH WORK -