

DURCET-2015
SCHEME AND SYLLABUS FOR PHD ENTRANCE EXAM
(COMPUTER SCIENCE)

There will be two sections

Section-A (30 Marks)

This section consists of 30 multiple choice questions on General Awareness

Section-B (90 Marks)

This section consists of 90 multiple choice questions on subject concerned. There will be nine subjects and ten multiple choice questions from each subject.

- | | |
|---|----|
| 1. Programming and Data Structures | 10 |
| 2. Computer Organization and Architecture | 10 |
| 3. Computer Networks and Algorithms | 10 |
| 4. Database Concepts and Data Mining | 10 |
| 5. Software Engineering | 10 |
| 6. Web Technologies | 10 |
| 7. Artificial Intelligence | 10 |
| 8. Operating System | 10 |
| 9. Cryptography and Network Security | 10 |

52. Hackers often use data thrown in bin to get information. This is
- | | |
|-----------------|-----------------|
| A. Scavenging | B. Data hiding |
| C. Piggybacking | D. Both a and b |
53. The receiver equalizer reduces delay distortions using
- | | |
|-----------------------|----------------------|
| A. Tapped Delay lines | B. Gearshift |
| C. Descrambler | D. Difference engine |
54. Which type of switching uses the entire capacity of a dedicated link?
- | | |
|------------------------------|-------------------------------------|
| A. Circuit switching | B. Virtual Circuit Packet Switching |
| C. Datagram Packet Switching | D. Message switching |
55. On which layer of the OSI model the router configuration reside
- | | |
|-----------------|-------------|
| A. Transport | B. Network |
| C. Logical link | D. Physical |
56. In TCP ,a unique sequence number assigned to each
- | | |
|------------|------------|
| A. Byte | B. Word |
| C. Segment | D. Message |
57. T switch is used to
- Control how messages are passed between computers
 - Echo every character that is received.
 - Transmit characters one at a time.
 - Rearrange the connection between computing equipments.
58. Which is reserved address for private networks?
- | | |
|-----------------------------------|---------------------------------|
| A. 150.0.0.0 to 150.255.255.255 | B. 128.0.0.0 to 191.255.255.255 |
| C. 192.168.0.0 to 192.168.255.255 | D. 202.40.55.0 to 202.40.55.255 |
59. Start and stop bits are used in serial communication for
- | | |
|--------------------|-----------------------------------|
| A. Error detection | B. Error correction |
| C. Synchronization | D. Slowing down the communication |
60. Which of following is not a digital to analog conversion?
- | | |
|--------|--------|
| A. ASK | B. PSK |
| C. FSK | D. AM |

4.Database Concepts and Data Mining

61. Which of the following is not a DML statement?
- | | |
|-----------|-----------|
| A. UPDATE | B. COMMIT |
| C. INSERT | D. DELETE |
- 62, The overall description of a database is called_____
- | | |
|--------------------|----------------------|
| A. Data definition | B. Data manipulation |
| C. Data integrity | D. Database schema |

63. The entity relationship model comes under
- | | |
|-------------------------------|-------------------------------|
| A. Object based logical model | B. Record based logical model |
| C. Physical data model | D. None of the above |
64. Every BCNF decomposition is
- | | |
|----------------------------------|------------------------------|
| A. Dependency preserving | B. Not dependency preserving |
| C. Need be dependency preserving | D. None of the above |
65. The keyword to eliminate duplicate rows from the query result in SQL is
- | | |
|-------------|----------------------|
| A. Distinct | B. No Duplicate |
| C. Unique | D. None of the above |
66. In the architecture of a database system external level is the
- | | |
|---------------------|------------------|
| A. Physical level | B. Logical level |
| C. Conceptual level | D. View level |
67. The column of a table is referred to as the
- | | |
|-----------|--------------|
| A. Tuple | B. Attribute |
| C. Entity | D. Degree |
68. An entity relationship diagram is a tool to represent
- | | |
|----------------|-------------------|
| A. Data model | B. Process model |
| C. Event model | D. Customer model |
69. A data mart contain
- | | |
|--------------------------------|-----------------------|
| A. Summarized data | B. De normalized data |
| C. Aggregate departmental data | D. All of these |
70. Which of the following is the advantage of data warehousing?
- | | |
|-----------------------------------|---------------------------|
| A. Better enterprise intelligence | B. Business reengineering |
| C. Cost effective decision making | D. All of these |

5. Software Engineering

71. All the modules of the system are integrated and tested as complete system in the case of
- | | |
|----------------------|---------------------|
| A. Bottom up testing | B. Top-down testing |
| C. Sandwich testing | D. Big-Bang testing |
72. Estimate of size for a project is dependent on
- | | |
|---------|------------------|
| A. Cost | B. Schedule |
| C. Time | D. None of above |
73. Spiral model begins with
- | | |
|-----------|---------------------------|
| A. Design | B. Risk analysis |
| C. Coding | D. Customer communication |
74. Which is non functional software testing?
- | | |
|------------------------|-----------------------|
| A. Unit testing | B. Black box testing |
| C. Performance testing | D. Regression testing |

75. In object oriented design of software , objects have
- A. Attributes and names only
 - B. Operations and names only
 - C. Attributes, name and operations
 - D. None of above
76. DFD depicts
- A. Flow of data
 - B. Flow of control
 - C. Both a and b
 - D. None of above
77. A feasibility study should focus on
- A. Technical feasibility
 - B. Economic feasibility
 - C. Operational feasibility
 - D. All of these
78. COCOMO II estimation model is based on
- A. Complex approach
 - B. Algorithmic approach
 - C. Bottom up approach
 - D. Top Down approach
79. The most desirable form of coupling
- A. Control Coupling
 - B. Content Coupling
 - C. Data Coupling
 - D. External Coupling
80. Waterfall model is a
- A. Linear model
 - B. Iterative model
 - C. Rapid model
 - D. Interactive model

6.Web Technologies

81. The '\$' present in the RegExp object is called?
- A. meta
 - B. metasymbol
 - C. metacharacter
 - D. None of the above
82. How many root element can an XML document have ?
- A. One
 - B. Two
 - C. Three
 - D. As many as the memory provides
83. The method or operator used to identify an array is _____
- A. type of
 - B. isArray()
 - C. typeof
 - D. None of the above
84. Which tags are commonly used by search engines?
- A. Headings
 - B. Title
 - C. Paragraph
 - D. All of these
85. Which property should be used for setting the left margin of an element?
- A. indent
 - B. Padding-left
 - C. Margin-left
 - D. left
86. How to make each word in a sentence start with a capital letter?
- A. font-weight:bold
 - B. text-transform:uppercase
 - C. text-transform:capitalize
 - D. font-size:100px

87. Which CSS property controls the text size?
- A. text-style
 - B. text-size
 - C. font-size
 - D. font-style
88. What will happen if reverse() and join() methods are used simultaneously in JavaScript ?
- A. Reverses and stores in same array
 - B. Reverses and concatenates of array
 - C. reverses
 - D. All of the mentioned
89. Do functions in JavaScript necessarily return a value ?
- A. It is mandatory
 - B. Not necessary
 - C. Few functions return values by default
 - D. All of the above
90. What is FTP program used for
- A. Transfer files to and from and internet server
 - B. Designing a website
 - C. Connecting to the Internet
 - D. None of the Above

7.Artificial Intelligence

- 91.Factors which affect the performance of learner system does **not** include
- (a) Representation scheme used
 - (b) Training scenario
 - (c) Type of feedback
 - (d) Good data structures
- 92.Different learning methods does **not** include
- (a) Memorization
 - (b) Analogy
 - (c) Deduction
 - (d) Introduction
- 93.In language understanding, the levels of knowledge that does **not** include
- (a) Phonological
 - (b) Syntactic
 - (c) Semantic
 - (d) Logical
- 94.A model of language consists of the categories which does **not** include
- (a) Language units
 - (b) Role structure of units
 - (c) System constraints
 - (d) Structural units
- 95.Semantic grammars
- (a) Encode semantic information into a syntactic grammar
 - (b) Decode semantic information into a syntactic grammar
 - (c) Encode syntactic information into a semantic grammar
 - (d) Decode syntactic information into a semantic grammar

96. What is a top-down parser?

- (a) Begins by hypothesizing a sentence (the symbol S) and successively predicting lower level constituents until individual preterminal symbols are written
- (b) Begins by hypothesizing a sentence (the symbol S) and successively predicting upper level constituents until individual preterminal symbols are written
- (c) Begins by hypothesizing lower level constituents and successively predicting a sentence (the symbol S)
- (d) All the above.

97. Perception involves

- (a) Sights, sounds, smell and touch
- (b) Hitting
- (c) Boxing
- (d) Dancing

98. Among the following which is **not** a horn clause?

- (a) p
- (b) $\neg p \vee q$
- (c) $p \rightarrow q$
- (d) $p \rightarrow \neg q$

99. The action 'STACK(A, B)' of a robot arm specifies to

- (a) Place block B on Block A
- (b) Place blocks A, B on the table in that order
- (c) Place blocks B, A on the table in that order
- (d) Place block A on block B

100. Machine learning is

- (a) The autonomous acquisition of knowledge through the use of computer programs
- (b) The autonomous acquisition of knowledge through the use of manual programs
- (c) The selective acquisition of knowledge through the use of computer programs
- (d) None of the above.

8. Operating Systems

101. The disk controller can be told to replace each bad sector logically with one of the spare sectors in the disk. This scheme is known as_____.

- (a) Sector sparing
- (b) Sector slipping
- (c) Forwarding
- (d) Back word replacing

102. Controlling the access of programs, processes or users to the resources defined by the system is known as_____.

- (a) Prevention
- (b) Security
- (c) Protection
- (d) Access stop

103. Which of the following mechanism is used to achieve concurrency control?

- (a) Clusters
- (b) Triggers
- (c) Cursors
- (d) Locks.

104. Every process before starting execution should know what resources are allocated to it. This is known as
- (a) Know-to-need (b) Need-to-Know
(c) Know about (d) Need-to-use
105. The ability to execute an operation on an object is known as
- (a) Access Right (b) Access Control
(c) Domain (d) Control Right
106. The time required to move the disk head to the desired track is known as
- (a) Access Time (b) Track Time
(c) Latency Time (d) Seek Time
107. A distributed system is a collection of processors that do not share_____.
- (a) CPU (b) Memory (c) I/O devices (d) Network
108. The name of the file does not reveal any hint of the file's physical storage location is called_____.
- (a) Location independence (b) Protection
(c) Location transparency (d) File migration
109. software entity running on one or more machines and providing a particular type of function to a priori unknown clients is called_____.
- (a) Client (b) Server
(c) Service (d) Process
110. Which of the following mechanism is used to achieve concurrency control?
- (a) Clusters (b) Triggers
(c) Cursors (d) Locks.

9. Cryptography and Network Security

111. In cryptography, what is cipher?
- a) algorithm for performing encryption and decryption b) encrypted message
c) both (a) and (b) d) none of the mentioned
112. In asymmetric key cryptography, the private key is kept by
- a) sender b) receiver
c) sender and receiver d) all the connected devices to the network
113. Which one of the following algorithm is not used in asymmetric-key cryptography?
- a) RSA algorithm b) diffie-hellman algorithm
c) electronic code book algorithm d) none of the mentioned

