

G.T.N. ARTS COLLEGE(Autonomous)

Dindigul

(Affiliated to Madurai Kamaraj University)

(Accredited with 'B' Grade by NAAC)



PG DEPARTMENT OF M.Sc COMPUTER SCIENCE

EXTERNAL QUESTION

(Academic year 2018-2019)



G. T.N. ARTS COLLEGE (AUTONOMOUS)

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : I M.Sc. Computer Science

Course Code : 17PCSC11

Course Title : Mathematical Foundation

Date : 14.11.2018

Time : 10.00 a.m to 1.00 p.m

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

- The product of variables and this negation is called on _____.
 [a] Elementary sum
 [b] Elementary product
 [c] (a) or (b)
 [d] both
- An equivalent formula consisting of conjunctions of maxterms only is known as _____.
 [a] CNF
 [b] PCNF
 [c] PDNF
 [d] DNF
- A simple graph in which every pair of distinct vertices are adjacent is called a _____.
 [a] Regular
 [b] null
 [c] complete
 [d] bigraph
- If T be a full binary tree with n vertices then the number of leaves in T is _____.
 [a] n
 [b] n+1
 [c] $\frac{(n+1)}{2}$
 [d] $\frac{n}{2}$

$f: G_1 \rightarrow G_2$ be an onto homomorphism from a group G_1 to a group G_2 .
 Let K be the kernel of f . then prove that G_1/K is isomorphic to G_2 .
 Express the polynomial $p(x_1, x_2, x_3) = x_1 \vee x_2$ in an equivalent sum of products canonical form in three variables x_1, x_2 and x_3 .

5. In the state diagram of a finite automaton the final states are indicated by _____ circles.

- [a] single
- [b] concentric
- [c] double
- [d] all

6. The set of all strings accepted by _____ is called the language accepted by M.

- [a] finite automaton M
- [b] infinite automaton
- [c] empty automator
- [d] non-empty automaton M

7. Every group of prime order is _____.

- [a] cyclic
- [b] abelian
- [c] a or b
- [d] both

8. If $(z, +)$ is a cyclic group its generator is a _____.

- [a] 0
- [b] ∞
- [c] 1
- [d] -1

9. Every chain is a _____.

- [a] Lattice
- [b] Sub Lattice
- [c] Bounded Lattice
- [d] All the above

10. A complemented distributive lattice is called a _____.

- [a] Lattice
- [b] Modular
- [c] Boolean lattice
- [d] All

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Show that $(\neg P \wedge (\neg Q \wedge R)) \vee (Q \wedge R) \vee (P \wedge R) \Leftrightarrow R$.

[OR]

b) Show that $R \rightarrow S$ can be derived from the premises

$P \rightarrow (Q \rightarrow S), \neg R \vee P, \text{ and } Q.$

12. a) Prove that the number of vertices n in a full binary tree [OR]

b) Write down the Dijkstra's Algorithm produces a spanning

13. a) Construct a finite automaton that accepts exactly those 0's and 1's that end in 11. [OR]

b) Construct an NFA accepting all strings over $\{0, 1\}$ which does not contain the substring 00.

14. a) Let $(M, *, e)$ be a monoid and $a \in M$. If a is invertible then its inverse is unique. [OR]

b) Prove that the intersection of two normal subgroups of a group is a normal subgroup of G.

15. a) Let (L, \leq) be a lattice. Prove that for any $a, b \in L$, the following are equivalent. (i) $a \leq b$ (ii) $a \vee b = b$ (iii) $a \wedge b = a$. [OR]

b) Prove that any chain is modular.

SECTION - C
Answer Any THREE Questions.

16. Obtain a conjunctive normal form of the formula

$P \rightarrow ((P \rightarrow Q) \wedge \neg(\neg Q \vee \neg P))$

17. Let G be an undirected graph. Prove that G is bipartite iff it contains no odd cycle.

18. Construct a grammar G for the language $L(G) = \{a^n b a^m : n, m \geq 1\}$.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : I M.Sc. Computer Science

Date : 16.11.2018

Course Code: 17PCSC12

Time : 10.00 a.m to 1.00 p.m

Course Title : Digital Principles &
Computer Organization

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. How many flip-flops are required for constructing mod-16 counter?
 [a] 5 [b] 6 [c] 4 [d] 3
2. The excess 3 code of decimal 7 is represented by _____.
 [a] 1100 [b] 1001 [c] 1011 [d] 1010
3. Which register can interact with the secondary storage devices?
 [a] PC [b] MAR [c] IR [d] RO
4. _____ flip - flop is used to store data in registers.
 [a] JK [b] SR [c] D [d] T
5. The ALU and control unit combined and manufactured on a single silicon chip is called _____.
 [a] microprocessor [b] mono-chip
 [c] control unit [d] a and b

6. Which of the following is typical characteristic of a RISC machine?
- [a] Instruction taking multiple cycles
 - [b] Highly pipelined
 - [c] Instruction interpreted by micro-programs
 - [d] Register sets

7. To complete 'n' tasks using a k-segment pipeline requires _____ clock cycles.

- [a] $k * (n - 1)$
- [b] $k + (n - 1)$
- [c] $k * (n + 1)$
- [d] $k + (n + 1)$

8. Reverse polish notation of $(A+B) * [C * (D+E) + F]$.

- [a] $AB+DE+CF**+$
- [b] $AB+DE+C*F**$
- [c] $AB+DE+C*F**+$
- [d] $AB+DE+CF**$

9. ASCII is a _____ code.

- [a] 6
- [b] 7
- [c] 8
- [d] 12

10. The _____ may be activated by either the source or destination unit.

- [a] Strobe
- [b] Handshaking
- [c] Timing diagram
- [d] Transmitter

SECTION - B

Answer ALL the Questions.

[5 X 7 = 35]

11. a) Write short notes on Logic gates.

[OR]

b) What are Adder Circuits? Explain it with neat diagrams.

12. a) What is instruction code? Discuss in detail about [OR]
- b) Briefly explain the arithmetic micro operations.
13. a) Elaborate Assembly Language. [OR]

b) Discuss in detail about Stack Organization.

14. a) What is Pipelining? Discuss Arithmetic Pipeline. [OR]

b) Explain the algorithm of Addition and Subtraction.

15. a) With a neat sketch explain the working principles of Access. [OR]

b) What is Cache Memory? Explain the different Mapping.

SECTION - C

Answer Any THREE Questions.

16. Explain the following:

- (i) D Flipflop
- (ii) 4 to 1 Multiplexer

17. Explain the various phases of instruction cycle in detail.

18. Explain different types of addressing modes with an example.

19. Draw and explain the architecture of a typical RISC Processor.

20. Elaborate the concept of virtual memory.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : I M.Sc. Computer Science

Date: 19.11.2018

Course Code: 17PCSC13

Time: 10.00 a.m to 1.00 p.m

Course Title : Data Structures & Algorithms Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

- The limit is ∞ : this means that $g(n)$ is _____.
[a] $O(f(N))$ [b] $O(g(N))$
[c] $O(g(f(N)))$ [d] $O(fg(N))$
- If there is a path from n_1 to n_2 then n_1 is an _____ of n_2 .
[a] ancestor [b] descendent
[c] path [d] depth
- _____ probing is a collision resolution method that eliminates primary clustering.
[a] quadratic [b] linear
[c] binary [d] double hashing
- The property that allows operation to be performed quickly is the _____ property.
[a] property [b] complete
[c] heap order [d] structure

5. _____ sort the fastest known as generic sorting algorithm in practice.
 - [a] shell
 - [b] insertion
 - [c] quick
 - [d] heap
6. Poly phase merge is used in _____ sorting.
 - [a] external
 - [b] internal
 - [c] topological
 - [d] quick
7. A _____ graph is a graph in which there is an edge between every pair of vertices.
 - [a] strong
 - [b] digraphs
 - [c] connected
 - [d] completed
8. A dashed line is _____ edge to indicate that this edge is not really part of the tree.
 - [a] arc
 - [b] back
 - [c] front
 - [d] cut
9. There are _____ versions of the bin packing problem.
 - [a] 1
 - [b] 2
 - [c] 3
 - [d] 4
10. The elimination of a large group of possibilities in one step is _____.
 - [a] processing
 - [b] elimination
 - [c] erasing
 - [d] pruning

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Discuss about representation of Binary tree.
 - [OR]
- b) How to analyze the algorithms?
12. a) Write Short notes on simple Hash function Algorithm?
 - [OR]
- b) What are the two properties of Binary heap?

13.a) Sort 20,10,60,40,30,15 using Insertion sort. [OR]

b) Write down the Quick Sort Algorithm.

14. a) What is Topological sort? Write the steps to perform [OR]

b) Define Euler circuit and prove the theorem with Ko

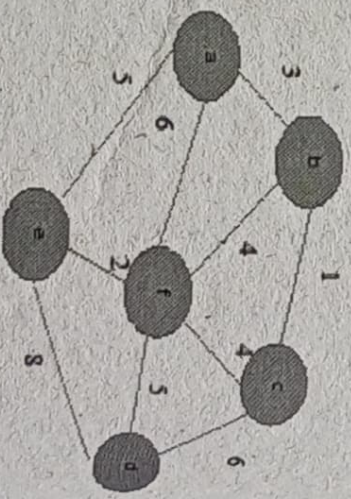
15. a) Write an algorithm of Huffman code construction? [OR]

b) What are the four simple Heuristics of Bin packing?

SECTION - C

Answer Any THREE Questions

16. Explain the different tree traversal techniques with exam
17. Discuss about Rehashing techniques to avoid collision
18. Describe the merge sort algorithm with example.
19. Find the minimum cost of spanning tree for the following Prim's and Kruskal's algorithm.



20. Write an iterative and recursive back tracking algorithm

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : I M.Sc. Computer Science

Course Code : 17PCSC14

Course Title : Database Management
System

Date : 22.11.2018

Time : 10.00 a.m to 1.00 p.m.

Max Marks: 75

SECTION - A

[10 X 1 =

Answer ALL the Questions.

Choose the Best Answer.

1. A major purpose of a Database system is to provide users with _____ view of data.
[a] internal [b] abstract
[c] unique [d] external
2. A _____ key of an entity set allows us to distinguish among various entities of the set.
[a] candidate [b] super
[c] primary [d] foreign
3. Minimal super keys are called _____ keys.
[a] candidate [b] super
[c] primary [d] foreign
4. SQL provides a mechanism for _____ both relations and attributes.
[a] inserting [b] naming
[c] deleting [d] renaming

11. a) Explain about the Relational Databases. [OR]

b) Discuss in detail about the Entity-Relationship Model.

12. a) What are the various Extended Relational-Algebra Operators? [OR]

b) Explain about the modification of the Databases.

13. a) Write about the Decomposition using Multi-Valued Dependencies. [OR]

b) Write notes on Persistent Programming Languages.

14. a) What is the various Transaction State? Explain. [OR]

b) Write about the Time Stamp-Based Protocols.

15. a) Explain in detail about Inter Operation Parallelism. [OR]

b) What is a Distributed Data Storage? Explain.

SECTION - C
Answer Any THREE Questions

16. Write in detail about the Extended ER features.

17. Explain about the basic structure of SQL Queries.

18. Write about the Decomposition using Functional Dependencies.

19. What are all the various Lock-Based Protocols.

20. Explain a brief history about Distributed Query Processing.

5. The process of taking a normalized scheme and making it non-normalized is called _____.
[a] normalization [b] insertion
[c] denormalization [d] deletion

6. Structured types allow _____ attributes of ER diagrams to be represented directly.
[a] composite [b] identical
[c] different [d] anonymous

7. A _____ is a unit of program execution that accesses and possibly updates various data items.
[a] abstraction [b] transaction
[c] transformation [d] encapsulation

8. One protocol that ensures _____ is the two-phase locking protocol.
[a] operability [b] intensity
[c] serializability [d] compactability

9. _____ parallelism refers to the execution of a single query in parallel on multiple processors and disks.
[a] intraquery [b] interquery
[c] intermediate [d] interoperable

10. The task is simplified by writing _____ for each data source, which provide a view of the local data in the Global schema.
[a] woofers [b] labels
[c] queries [d] wrappers

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : M.Sc. Computer Science

Date : 14.11.2018

Course Code: 17PCSC21

Time: 2.00 p.m. to 5.00 p.m.

Course Title : Advanced Java

Max Marks: 75

Programming

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. What is the number of bytes used by java primitive long?
[a] based on compiler [b] 2
[c] 4 [d] 8
2. In java, arrays are _____.
[a] object [b] object reference
[c] primitive data type [d] none of the above
3. _____ method cannot be overridden.
[a] super [b] static
[c] final [d] private
4. Which of the following block executed compulsory whether exception is caught or not.
[a] finally [b] catch
[c] throws [d] throw

5. Which method must be implemented by all thread?
 [a] wait() [b] start()
 [c] stop() [d] run()
6. The applet class is in _____ package.
 [a] java.applet [b] java.awt
 [c] java.io [d] java.util
7. _____ is the default LayoutManager.
 [a] setLayout [b] flowLayout
 [c] BorderLayout [d] BorderLayout
8. Which class is used to get dimension of a applet?
 [a] dimension [b] metrics
 [c] applet [d] font metrics
9. _____ is the first phase of the servlet life cycle.
 [a] Initialization [b] Service
 [c] Start [d] Destruction
10. Which of the following is not the method of servlet?
 [a] init() [b] del()
 [c] service() [d] destroy()

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Explain Data types in java.

[OR]

b) Discuss about Iteration statement.

12. a) Write short notes on
 i) Declaring Objects
 ii) Constructors
 iii) Finalize() method

[OR]

b) Explain about interfaces with example.

13. a) How to create a thread? Explain.

[OR]

b) Write a short note on Applet Skeleton.

14. a) Discuss about Layout Manager.

[OR]

b) Explain JApplet, icons & Labels.

15. a) Discuss about JAR files.

[OR]

b) Write short notes on

i) HTTP GET Requests

ii) HTTP POST Requests

SECTION - C

Answer Any THREE Questions

16. Explain about Operators in Java with example.

17. Discuss about

i) Packages

ii) Exception handling

18. Explain HTML Applet Tag.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : M.Sc. (Computer Science)

Course Code: 17PCSC23

Course Title : Operating System

Date : 19.11.2018

Time : 2.00 p.m. to 5.00 p.m.

Max Marks : 75

SECTION – A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. The abstract view of an entity is a called _____ View.
[a] Physical [b] Logical
[c] Organization [d] Kernel.
2. _____ is the forced deallocation of the CPU from a program.
[a] preemption [b] scheduling
[c] batch [d] low priority
3. _____ is used to convey an exceptional situation to a process.
[a] message [b] signals
[c] status [d] call
4. Ratio of the turnaround time of a process to its own service time.
[a] response [b] throughput
[c] weighted turnaround [d] turnaround
5. _____ is binding performed before the operation of a program begins.
[a] Static [b] Dynamic
[c] Fixed [d] Late

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6. _____ page replacement uses principal of locality of reference.
 [a] Optimal [b] FIFO
 [c] LRU [d] IPT
7. In _____ version 4.2 the filename can be up to 255 bytes long.
 [a] UNIX [b] Windows
 [c] Solaris [d] System V
8. _____ is used to implement secrecy of the authentication database.
 [a] encryption [b] authentication
 [c] authorization [d] virus
9. _____ is a repository for interprocess message.
 [a] Lock [b] Receive
 [c] Send [d] Mailbox
10. Deadlocks can be detected by checking for the presence of cycle in _____
 [a] RRAG [b] WGF
 [c] RA [d] WF

SECTION - B
Answer ALL the Questions.

[5 X 7 = 35]

11. a) Explain about the Distributed System.
 [OR]
 b) What is Operating System? Write the goal of an Operating System.
12. a) Define Process. Explain states of the Process.
 [OR]
 b) State the different type of Schedulers and Explain.

- 13.a) Write short notes on Kernel I/O Structure.
 [OR]
 b) Discuss Segmentation with Paging in detail.
14. a) Explain fundamentals of File Organization.
 [OR]
 b) Discuss about Encryption, Authentication and Passwords.
15. a) Explain Process Synchronization.
 [OR]
 b) Write Bankers Algorithm and Explain it.

SECTION - C
Answer Any THREE Questions.

16. Describe different types of Operating Systems.
 17. Explain the various CPU Scheduling algorithms.
 18. Elaborate different Page Replacement algorithm.
 19. Explain File Processing in Linux.
 20. Describe deadlock detection and recovery with example.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : M.Sc. Computer Science

Date : 22.11.2018

Course Code: 17PCSE22

Time : 2.00 p.m. to 5.00 p.m.

Course Title : **Computer Graphics
and Multimedia**

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

- _____ is also called gas Discharge Displays.
[a] LCD [b] LED
[c] Flat Panel [d] Plasma Panel
- _____ is a Sub Fields of Artificial Intelligence.
[a] Interactive Graphics [b] DIP
[c] GUI [d] Computer Vision
- Which of the following Techniques is used in Mid-point sub division algorithm.
[a] Bisection [b] Bubble
[c] Linear [d] Sequential
- _____ means to change the size of object.
[a] Scaling [b] Shearing
[c] Translation [d] Rotation

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5. The plane on which projection of object formed _____.

- [a] projection plane
- [b] center
- [c] projectors
- [d] viewing

6. A frame buffer is used to store the _____ of each pixel in image space.

- [a] Density
- [b] Coordinate
- [c] Scalar
- [d] Intensity

7. The Aspect ratio of VGA is _____.

- [a] 4:3
- [b] 16:9
- [c] 8:5
- [d] 4:6

8. The Abbreviate of TGA _____.

- [a] True Vision Graphics Adapter
- [b] True Visual Graphics Adapter
- [c] True View Graphics Adapter
- [d] True Visible Graphics Adapter

9. Which of the following is not compression Performance measurement?

- [a] Compression ratio
- [b] Compression factor
- [c] Compression saving
- [d] Space factor

10. _____ motion descriptor characteristics 3D motion parameters.

- [a] Camera Motion
- [b] Motion Trajectory
- [c] Parametric Motion
- [d] Motion Activity

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Explain about Hardware Components.

[OR]

b) Explain about DDA Algorithms.

12. a) Explain about windows and view ports. [OR]

b) Explain on windows and view ports.

13. a) Short Notes on 3D Shearing. [OR]

b) Short notes on 3D Reflection.

14. a) Explain on Insertion of Text. [OR]

b) Explain about Characteristics of multimedia pro

15. a) Short Notes on Sound card. [OR]

b) Short Notes on Audio File Format.

SECTION - C

Answer Any THREE Questions

16. Explain on Display Systems.

17. Explain Briefly on Clipping.

18. Explain about Oblique Projection.

19. Explain briefly on uses of Multimedia.

20. Explain with MIDI.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : II M.Sc. Computer Science

Date : 15.11.2018

Course Code: 17PCSC31

Time : 10.00 a.m to 1.00 p.m

Course Title : Software Engineering

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. Incremental Model combines elements of the _____ model applied in an iteration fashion.
[a] Waterfall [b] Perspective
[c] RAD [d] Evolutionary
2. A Team Leader of scrum meeting is called a _____.
[a] Scrum Head [b] Scrum Leader
[c] Scrum Master [d] Scrum Lead
3. All test should be traceable to _____ requirements.
[a] Developer [b] Testing Team
[c] Business Analyst [d] Customer
4. _____ is not software modes for interactive in use cases development.
[a] Programming mode [b] Test mode
[c] Troubleshooting Mode [d] Development Mode

5. Software design is an iterative process through which requirements are translated into _____.

- [a] Data
- [b] Information
- [c] Blue print
- [d] Behavioral requirement

6. An Incoming information processing controller called _____ controller, coordinates receiver of all incoming data in first level factoring.

- [a] Alarm Condition
- [b] Alarm Output and Input
- [c] Sensor input
- [d] Sensor condition

7. Program design Language is also called _____.

- [a] Structured English
- [b] Structured Language
- [c] Structured Protocol
- [d] Structured design

8. A Bi-directional link is also called a _____.

- [a] Systematic Link
- [b] Symmetric Link
- [c] Parallel Link
- [d] Weighted Link

9. Abbreviate GQM.

- [a] Goal Question Metric
- [b] Goal Quality Metric
- [c] Goal Question Measure
- [d] Goal Quality Measure

10. _____ is often called the web master.

- [a] Support Specialist
- [b] Administrator
- [c] Business Domain Expert
- [d] Web Engineer

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) What do you mean by Legacy software? Explain.

[OR]

b) Write Short notes on Personal and Team process model.

12. a) Discuss about the Modeling Practices. **[OR]**

b) Describe the Data Modeling concepts.

13. a) Discuss any Five Design concepts. **[OR]**

b) Explain about Interface Analysis.

14. a) Write notes on the following Testing strategies.
i) Unit Testing ii) Integration Testing.

[OR]

b) Describe the Software Testing Fundamentals.

15. a) Discuss about the Metrics for Analysis Model. **[OR]**

b) How to formulate the Web based Systems?

SECTION - C

Answer Any THREE Questions

16. Explain in detail about Evolutionary Process Model.

17. Discuss about various Requirements Engineering Tasks.

18. Describe in detail about Architectural Styles and patterns.

19. Explain about Black box Testing in Detail.

20. Write about Software Quality in Detail.

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : II M.Sc. Computer Science

Date : 17.11.2018

Course Code: 17PCSC32

Time : 10.00 a.m to 1.00 p.m

Course Title : Web Technology

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. The _____ statement ends execution of the current iteration but doesn't cause the loop as a whole to end.
[a] Continue [b] Break [c] Switch [d] Looping
2. The Concatenation operator is represented by a _____.
[a] Single Period [b] Plus [c] Concat [d] Join
3. _____ arrays use actual named keys.
[a] Const [b] Scalar
[c] Associative [d] Index
4. A _____ specifier is used to display an integer as a lower case hexadecimal number(base 16)..
[a] d [b] x [c] b [d] c
5. The mail() function uses _____ parameters.
[a] Five [b] Four [c] Three [d] Six

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6. To remove all registered variables from a session, you simply _____
the variable.

[a] Unregister

[b] Set

[c] Destroy()

[d] Unset

7. Included _____ in PHP can return a value in the same way that
functions do.

[a] variable

[b] Cookie

[c] files

[d] id

8. _____ attempts to create an empty file of that name.

[a] dup()

[b] touch()

[c] copy()

[d] IS-File()

9. MYSQL uses all the standard _____ numeric data types.

[a] ANSI

[b] ANSI SQL

[c] CORE SQL

[d] ISOSQL

10. The _____ function returns the position of the first occurrence of
a given substring within the target string

[a] POS()

[b] INDEX()

[c] ID()

[d] LOCATE()

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Describe more about arguments.

[OR]

b) Explain about switching flow.

12. a) Write about the Formatting String with PHP.

[OR]

b) Explain about Investigating String in PHP.

13. a) Explain about working with arrays. [OR]

b) Write about combining HTML and PHP code on

14. a) Explain about Writing or Appending to the file. [OR]

b) Explain with Types of table relationships.

15. a) Write a Short note on using select Commands. [OR]

b) Explain about Selecting from multiple tables.

SECTION - C

Answer Any THREE Questions

16. Explain about Loops.

17. Explain about a using Date and Time function in PHP.

18. Explain on sending mail on form submission.

19. Explain about working with Directories.

20. Explain about Frequently used string function in PHP.

19

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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : II M.Sc. Computer Science

Date : 20.11.2018

Course Code: 17PCSE33

Time : 10.00 a.m to 1.00 p.m.

Course Title : Information Retrieval

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. The Result is a binary term document is called _____.
 [a] Square [b] Sparse
 [c] Incidence [d] Identity
2. Dictionary of terms sometime referred to as _____.
 [a] Vocabulary [b] Lexicon
 [c] List [d] Both a & b
3. _____ are similar to fields.
 [a] Data [b] Index
 [c] Zone [d] Text
4. The idea of champion lists sometimes called as _____.
 [a] Fancy Lists [b] Top focs
 [c] Short list [d] Both a& b
5. Topic classification task is categorized into _____ types.
 [a] One [b] Two
 [c] Three [d] Four

6. An example of a Non-linear classifier is _____.

- [a] KNN
- [b] LNN
- [c] KMN
- [d] LMN

7. _____ Algorithms group a set of document into subsets.

- [a] Greedy
- [b] Kruskal
- [c] Dynamic
- [d] Clustering

8. The number of clusters is called _____ of a clustering.

- [a] Tuple
- [b] Cardinality
- [c] Degree
- [d] Both a & b

9. Agglomerative algorithms categorized into _____ types.

- [a] Two
- [b] Three
- [c] Four
- [d] Five

10. _____ clustering algorithms are either top-down (or) Bottom up.

- [a] Hierarchical
- [b] Flat
- [c] Soft
- [d] Hard

SECTION - B

Answer ALL the Questions.

[5 X 7 = 35]

11. a) Discuss about the Tokenization.

[OR]

b) Write a short note on Phonetic Correction.

12. a) Explain Parametric and Zone Indexes.

[OR]

b) Explain efficient scoring and ranking.

13. a) Discuss about the Bernoulli model. **[OR]**

b) Explain the bias-variance tradeoff.

14. a) Explain Machine – Learning methods in ad hoc info. **[OR]**

b) Explain Model-based clustering.

15. a) Explain Divisive clustering. **[OR]**

b) Explain Cluster Labeling.

SECTION - C

Answer Any THREE Questions

16. Explain Positional Postings and Phrase Queries.

17. Discuss about the Vector space model for scoring.

18. Discuss about the Feature Selection.

19. Explain Clustering in Information Retrieval.

20. Discuss about the Hierarchical Agglomerative Clustering.



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END SEMESTER EXAMINATION - NOVEMBER 2018

Class : II M.Sc. Chemistry
Course Code: 17PCSN31
Course Title : Internet & Web
Programming

Date : 26.11.2018
Time : 10.00 a.m to 1.00 p.m
Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. _____ is the only protocol used to send data all around the Internet.

[a] HTTP	[b] FTP
[c] TCP/IP	[d] FMTP

2. The _____ layer gets packets from the Data link Layer and sends them to the correct network address.

[a] physical	[b] network
[c] transport	[d] session

3. The splitting of a page into frames can be accomplished by using the _____ tag.

[a] frameset	[b] frame
[c] colframe	[d] rowframe

4. _____ allows linking to other documents.

[a] WWW	[b] DML
---------	---------

5. User requests is traditionally done through a _____.

- [a] domain
- [b] session
- [c] form
- [d] frame

6. An _____ is used to transform one or more values into a single resultant value.

- [a] expression
- [b] identifier
- [c] variable
- [d] operator

7. A _____ is a convenient memory location for a computer.

- [a] address
- [b] register
- [c] block
- [d] variable

8. VBScript has _____ types of Procedures.

- [a] 4
- [b] 3
- [c] 2
- [d] 1

9. _____ is similar to a servlet

- [a] JSP
- [b] ASP
- [c] JavaScript
- [d] VBScript

10. _____ are the small pieces of code that can be embedded in the program flow to do some actions independently.

- [a] classes
- [b] subroutines
- [c] objects
- [d] methods

SECTION - B
Answer ALL the Questions.
[5 X 7 = 35]

11. a) Explain about the Transmission Control Protocol.

[OR]

b) Discuss in detail about the Internet Server Identifies.

12. a) Write about the Frames.

[OR]

b) Explain about the various types of Lists.

13. a) Write about the User-defined functions.

[OR]

b) Write notes on Operators and Expressions in JavaScript.

14. a) What is a Procedure? Explain.

[OR]

b) Write about the Conditional and Looping Statements

15. a) Explain the various components of JSP.

[OR]

b) Explain the various objects of ASP.

SECTION - C
Answer Any THREE Questions.

16. Write in detail about the overview of TCP/IP and its Services.

17. Explain about the Table and its Tags.

18. Write about the various Form objects.

19. Explain about the Cookies.

20. Explain a brief notes on connecting to Data with ASP.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Course Code : 17PCSC31

Course Title : Software Engineering

Date: 03.05.2019

Time: 2.00 p.m. to 5.00 p.m.

Max Marks : 75

Section - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

1. Development phase contain which of the following _____.
[a] Delivery [b] Estimating
[c] Tracking [d] Test
2. A Team Leader of scrum meeting is called a _____.
[a] Scrum Head [b] Scrum Leader
[c] Scrum Master [d] Scrum Lead
3. All test should be traceable to ____ requirements.
[a] Developers [b] Testing Team
[c] Business Analyst [d] Customer
4. Quality Function Deployment is a technique that translate the needs of the customer into ____ requirements of software.
[a] Informal [b] Formal
[c] Technical [d] Non-technical

5. In design concept at the _____ of abstraction solution is started in broad terms using the language of problem environment.

- [a] Middle Level
- [b] Initial Level
- [c] High Level
- [d] Low Level

6. _____ classes represent data stores that will persist beyond the execution of the software.

- [a] User Interface Classes
- [b] Process Classes
- [c] System Classes
- [d] Persistent Classes

7. _____ is one of the important elements of interface design.

- [a] Open Interface
- [b] Internal Interface
- [c] Metaphor Interface
- [d] Initial Interface

8. Program Design Language is also called _____.

- [a] Structured English
- [b] Structured Language
- [c] Structure Protocol
- [d] Structured Design

9. The extent to which a program satisfies its specification and fulfills the customer's mission objective.

- [a] Correctness
- [b] Reliability
- [c] Efficiency
- [d] Flexibility

10. _____ is often called the web master.

- [a] Support Specialist
- [b] Administrator
- [c] Business Domain Expert
- [d] Web Engineer

Section - B

Answer ALL the Questions.

[5 X 7 = 35]

11. a) Enumerate in detail Changing Nature of Software.

[OR]

b) Summarize Process Framework with neat diagram.

12. a) Illustrate in detail various principles apply in communi
[OR]

b) Enumerate in detail various principles apply in Planning

13. a) Examine in detail about Design Concepts.

[OR]

b) Discuss in detail Pattern-Based Software Design.

14. a) Analyze in detail about Validation Testing.

[OR]

b) Describe in detail about System Testing.

15. a) Illustrate in detail various Attributes of Web-Based System Applications in Web Engineering.

[OR]

b) Characterize in detail about WebApp Engineering Layer

Section - C

Answer any THREE Questions.

16. Discuss the Waterfall Model with neat diagram.

17. Summarize in detail about Requirements Engineering Task

18. Illustrate in brief Cohesion and Coupling in Designing Class Components.

19. Characterize various Control Structure Testing Syntax with

20. Elucidate in detail about Web Engineering Team in WebApp

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 03.05.2019

Course Code: 17PCSC41

Time: 10.00 a.m. to 1.00 p.m.

Course Title : Digital Image Processing

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Correct Answer.

1. Restoration techniques are based on _____ models of image degradation.

[a] Spatial

[b] Fourier

[c] ROI

[d] Mathematical

2. _____ is an opaque membrane that enclosed the remainder of the optic globe

[a] cornea

[b] cones

[c] rods

[d] sclera

3. The mechanism of convolution is the same except filter is first rotated by _____ degree.

[a] 90

[b] 360

[c] 180

[d] 45

4. The Butterworth filter has a parameter called _____.

[a] filter order

[b] spatial

[c] mean

[d] mask

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 02.05.2019

Course Code: 17PCSC21

Time: 10.00 a.m. to 1.00 p.m.

Course Title : Advanced Java
Programming

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.
Choose the Correct Answer:

1. In java array are _____
[a] Object [b] Object reference
[c] Primitive data type [d] None of the above
2. Which of the following automatic type conversion will be possible?
[a] short to int [b] byte to int
[c] int to long [d] long to int
3. _____ method cannot be overridden.
[a] super [b] static
[c] final [d] private
4. The class at the top of exception class hierarchy is _____
[a] Arithmetic Exception [b] Throwable
[c] Object [d] Class
5. The applet class is in _____ package.
[a] java.applet [b] java.awt
[c] java.io [d] java.util

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6. Which of these are multitasking?

- [a] process and thread based [b] process or thread based
[c] process based [d] thread based

7. How many types of controls does AWT support?

- [a] 7 [b] 6 [c] 5 [d] 8

8. Which method can set or change the text in a label?

- [a] set Text() [b] get Text ()
[c] put Text [d] All of the above

9. _____ is the first phase of the servlet life cycle.

- [a] Initialization [b] Service
[c] Start [d] Destruction

10. Which of the following is not the method of servlet?

- [a] Init() [b] Del()
[c] service() [d] Destroy

SECTION - B
Answer ALL the Questions.

[5 X 7 = 35]

11. a) What is an array? How can we initialize and processing an array?

[OR]

b) Explain the types of Java operators and its precedence.

12. a) What is inheritance? Explain multilevel inheritance with an example.

[OR]

b) What is an Interface? How can we implement multiple interfaces in our working class?

13. a) How can we use thread priority efficiently? Explain example.

[OR]

b) Explain Applet Architecture and its life cycle methods with example program.

14. a) Explain the following AWT Controls

- i) Button ii) Lable ii) Text Field.

[OR]

b) Compare AWT check box and choice control list.

15. a) How can we use bound properties of Java bean? Give an ex

[OR]

b) Write short note on i) Servlet Cookies ii) Servlet Session

SECTION - C
Answer any THREE Questions.

[3 X

16. Explain the Control statements in java with suitable example.

17. What is package? How can we create and use the custom package in our program?

18. Explain the procedure to create and execute an applet program with suitable example.

19. Explain the Event handling process in AWT with an example program.

20. How can you develop a simple bean Using JDK? Give an example.



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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Chemistry

Date : 13.05.2019

Course Code: 17PCSN31

Time : 2.00 p.m. to 5.00 p.m.

Course Title : Internet & Web Programming

Max Marks: 75

Section - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Correct Answer.

1. The server on the internet is also known as a _____
[a] HUB [b] Host
[c] Gateway [d] Repeater
2. TCP is a commonly used protocol at _____
[a] Application layer [b] Transport layer
[c] Network layer [d] Data link layer
3. Which of the following is a new input type in HTML5?
[a] Button [b] Text
[c] Address [d] Date
4. The Web application that can store data within the user's browser is called as _____
[a] Storage [b] Server Storage
[c] Local Storage [d] Media Storage

5. Which of the Following function of Boolean objects returns a string containing the source of the Boolean object?

- [a] to source()
- [b] value of()
- [c] to string()
- [d] none of the above

6. VB script is developed by _____.

- [a] Netscape
- [b] Opera
- [c] Sun
- [d] Microsoft

7. A Scripting language is a _____.

- [a] Light weight programming language
- [b] Script
- [c] a and b are Correct
- [d] None of these

8. The Command used in VBScript for writing some text on a page is _____.

- [a] Document.Write()
- [b] Msgbox
- [c] a and b are Correct
- [d] None of these

9. Which attribute specifies a JSP Page that should process any exceptions thrown but not caught in the current page?

- [a] The Error page Attribute
- [b] the IS Error Page Attribute
- [c] Both a and b
- [d] None of the above

10. In JSP How many ways are there to perform exception handling?

- [a] 3
- [b] 2
- [c] 4
- [d] 5

Section - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Write short note on internet domains.

[OR]

b) Explain about client IP Address.

12. a) Write a script

[OR]

b) What is Hypertext Markup Language (HTML)?

13. a) Explain the use of dialog boxes in java script.

[OR]

b) How to create user defined functions in java script?

14. a) Discuss the various conditional statements in VB script.

[OR]

b) What is procedure? How to create it?

15. a) Describe the various components of JSP.

[OR]

b) Explain ASP Cookies with an example.

Section - C

Answer any THREE Questions.

16. Explain about a brief Overview of TCP/IP and its Services.

17. List out and explain any five HTML Commands.

18. Describe the various operators and expressions in java script.

19. What do you mean by cookies? How to create cookies in VB script?

20. Discuss about ASP Objects.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 06.05.2019

Course Code: 17PCSC42

Time: 10.00 a.m. to 1.00 p.m.

Course Title : Big Data Analytics

Max Marks :75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions:
Choose the Correct Answer.

- Which of the following is noisy unstructured data?

[a] text mining	[b] text messages
[c] chats	[d] both b and c
- Which of the following is human-generated unstructured data?

[a] mobile data	[b] postgresQL
[c] scientific data	[d] point of sale
- In _____ architecture, a common central memory is shared by multiple processors.

[a] shared memory	[b] shared disk
[c] shared nothing	[d] shared processor
- Which of the following Analytics Data is both being internally and externally sourced?

[a] Analytics 1.0	[b] Analytics 2.0
[c] Analytics 3.0	[d] Analytics 4.0

5. _____ is the key-value database.

[a] dynamo

[b] apache couch DB

[c] cassandra

[d] HBase

6. There is a single _____ per slave node

[a] task tracker

[b] job tracker

[c] mappers

[d] reducers

7. Which of the following convert byte-oriented view into record-oriented view?

[a] map

[b] combiner

[c] partitioner

[d] record reader

8. _____ is the name space for table.

[a] databases

[b] tables

[c] buckets

[d] clusters

9. K-Means clustering algorithm belongs to _____ category.

[a] hierarchical

[b] vertical

[c] partitional

[d] join

10. In Decision tree _____ nodes represented by squares

[a] decision

[b] chance

[c] end

[d] beginning

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Which techniques are used to find patterns in the unstructured data?

Explain.

[OR]

b) What is the role of big data? Explain.

12. a) Differentiate the various versions of analytics.

[OR]

b) Highlight the various approaches of data analytics.

13. a) Illustrate the work flow of map reduce programming.

[OR]

b) Discuss Hadoop ecosystem.

14. a) Discuss the phases of reducer.

[OR]

b) What is HIVE? List its data types.

15. a) Comment on machine learning.

[OR]

b) How do you implement k-means algorithm? Explain.

SECTION - C

[3 X 10 = 30]

Answer any THREE Questions.

16. How will you classify digital data?

17. Describe the terminologies used in big data system

18. Explicate the NoSQL techn.

19. Illustrate HIVE Query language.

20. Examine association rule mining in machine learning.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 04.05.2019

Course Code: 17PCSC22

Time: 10.00 a.m. to 1.00 p.m.

Course Title : Data Communication &
Networks

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Correct Answer.

1. The _____ layer is closest to the transmission medium.

[a] Physical

[b] Data Link

[c] Transport

[d] Network

2. HDLC is _____.

[a] Bit Oriented

[b] Code transparent

[c] Character oriented

[d] Both a & b

3. ALOHA is used for _____.

[a] Channel allocation problem

[b] Data transfer

[c] Frame transfer

[d] Buffering

4. Different computers are connected to an LAN by cable and _____.

[a] Modem

[b] Interface card

[c] Special wires

[d] Telephone lines



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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science
Course Code : 17PCSC12
Course Title : Digital Principles &
Computer Organization

Date : 04.05.2019
Time : 2.00 p.m. to 5.00 p.m.
Max Marks: 75

Section - A

Answer ALL the Questions.
Choose the Correct Answer.

[10 X 1 = 10]

1. Digital computers are normally based on _____ gates.
[a] AND, OR [b] NAND, NOR
[c] NOT [d] XOR, XNOR
2. Which of the following is a self complementing code?
[a] 8421 [b] 5211
[c] Gray code [d] Binary code
3. Which Register can interact with the secondary storage devices?
[a] PC [b] MAR
[c] IR [d] RO
4. _____ flip-flop is used to store data in registers.
[a] JK [b] SR
[c] D [d] T

The ALU and control unit combined and manufactured on a single silicon chip is called _____.

- [a] Microprocessor [b] in stack
- [c] Control unit [d] a and b

Which of the following is not a status bit condition?

- [a] U [b] S
- [c] K [d] Z

In immediate addressing the operand is placed _____.

- [a] In memory [b] in stack
- [c] After OP code [d] in CPU

To achieve parallelism one needs a minimum of _____ Processors.

- [a] 2 [b] 3
- [c] 4 [d] 5

The _____ may be activated by either the source or destination unit.

- [a] Strobe [b] Handshaking
- [c] Timing diagram [d] Transmitter

Advanced Data communication control procedure was adopted by _____.

- [a] DEC [b] IBM
- [c] ISO [d] ANSI

Section – B [5 X 7 = 35]
Answer ALL the Questions.

a) Write a short note on Half-Adder.

[OR]

b) Discuss about Error Detection Codes.

12. a) Explain Arithmetic Logic shift unit.

[OR]

b) Write short note on Instruction Cycle.

13. a) Discuss about the subroutines.

[OR]

b) Write short note on Memory Stack.

14. a) With an example, explain the functions of Arithmetic pipeline.

[OR]

b) Discuss about BCD Adder.

15. a) Discuss about Asynchronous Data Transfer.

[OR]

b) Write short note on Direct mapping method.

Section – C [3 X 10 = 30]
Answer any THREE Questions.

16. With neat diagram, explain the various types of Logic gates.

17. Discuss about Arithmetic Micro operations.

18. Explain the types of Addressing Modes.

19. Explain Floating-point Arithmetic operations.

20. What is DMA? Explain.

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- 18. Illustrate Array and Multiset Types in SQL with example.
- 19. Characterize Timestamp-Based Protocols with suitable example.
- 20. Elucidate in detail about Distributed Transactions with example.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science Date : 09.05.2019
Course Code: 17PCSC14 Time : 2.00 p.m. to 5.00 p.m.
Course Title : Database Management System Max Marks : 75

Section - A [10 X 1 = 10]
Answer ALL the Questions.
Choose the Correct Answer.

- 1. An entity in A is associated with almost one entity set in B. The Mapping cardinalities of A & B is _____.
[a] One to one [b] One to many
[c] Many to one [d] Many to many
- 2. A _____ is a set of one or more attributes that allow us to identify uniquely an entity in the entity set.
[a] Primary key [b] Candidate key
[c] Foreign key [d] Super key
- 3. The _____ operation selects tuples that satisfy a given predicate.
[a] Select [b] Project
[c] Rename [d] Cartesian Product
- 4. The Rename operator denoted by Greek Letter _____.
[a] Sigma [b] pi
[c] rho [d] cross

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Course Code: 17PCSE22

Course Title : Computer Graphics & Multimedia

Date : 09.05.2019

Time: 10.00 a.m. to 1.00 p.m.

Max Marks : 75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Best Answer.

- _____ is a subfield of artificial intelligence.
[a] Interactive graphics [b] DIP
[c] GUI [d] Computer vision
- A device for specifying scalar values is _____.
[a] data glove [b] locator
[c] stroke [d] valuator
- Which of the following techniques is used in midpoint subdivision algorithm?
[a] bisection [b] bubble
[c] linear [d] sequential
- _____ algorithm is applicable for hardware implementation.
[a] sutherland-cohen [b] 4 bit
[c] midpoint subdivision [d] cyrus beck

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- 5. The plane on which projection of object is formed _____
 [a] projection plane [b] center
 [c] projectors [d] viewing
- 6. A frame buffer is used to store the _____ of each pixel in image space.
 [a] density [b] co-ordinate
 [c] scalar [d] intensity
- 7. Hard disk should be able to provide _____ mb/sec for sustained throughput.
 [a] 1.5 [b] 1.6
 [c] 1.4 [d] 1.3
- 8. Recovery of original information in image reconstruction.
 [a] convolution [b] recovery
 [c] deconvolution [d] kernel
- 9. Which of the following is not compression performance measurement?
 [a] compression ration [b] compression factor
 [c] compression saving [d] space factor
- 10. WavePack is free open source lossless audio compress _____ bit audio file in the .wav format.
 [a] 24 [b] 12
 [c] 32 [d] 64

SECTION - B [5 X 7 = 35]

Answer ALL the Questions.

- 11. a) Write short notes on applications of computer graphics. [OR]
- b) Explain Bresenham's Line drawing algorithm.

- 12. a) How do we represent 2D points in matrix form? Explain. [OR]
- b) How can we perform transformation between coordinate system. Explain.

- 13. a) Explain i) 3D rotation ii) 3D scaling [OR]

- b) How can we perform BACK FACE DETECTION? Explain.
- 14. a) List out and explain the uses of multimedia. [OR]

- b) Write short notes on Text compression.
- 15. a) How do we perform the transmission of video signals? [OR]

- b) Briefly explain the lossy and lossless compression techniques. [3 X 10 = 30]

SECTION - C

Answer Any THREE Questions.

- 16. Describe Bresenham's circle generating algorithm in detail.
- 17. How do transformations occurs between coordinate system? Explain with diagram.
- 18. Explain any two terms related to projections.
- 19. Write notes on Plasma Display Panel [PDP].
- 20. Describe the concept of video file format and CODEC'S.

[3 X 10 = 30]

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 07.05.2019

Course Code: 17PCSC13

Time : 2.00 p.m. to 5.00 p.m.

Course Title : Data Structures & Algorithms

Max Marks : 75

Section - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Correct Answer.

1. If $T(N)$ is a polynomial of degree k then $T(N)$ _____.
[a] $O(N)$ [b] $O(N*N)$
[c] $\Theta(Nk)$ [d] $O(2N)$
2. _____ returns true if iterator $itr1$ and $itr2$ refer to same location and false otherwise.
[a] $itr1==itr2$ [b] $itr1+=itr2$
[c] $itr1=itr2$ [d] $itr1\&=itr2$
3. _____ is to keep a test of all elements that hash to the same value.
[a] double hash [b] probing
[c] separate chaining [d] hashing
4. Priority queues are also important in the implementation of _____ algorithm.
[a] binary [b] greedy
[c] backtracking [d] divide and conquer

5. The average number of inversions in an array of N distinct elements is _____.

- [a] $N(N-1)$ [b] $N(2N-2)$
 [c] $N(N-1)/2$ [d] $N(N-1)/4$

6. Any algorithm that sorts by exchanging adjacent elements requires _____ time on average.

- [a] $O(N^2)$ [b] $\Omega(N^2)$
 [c] $O(N)$ [d] $\Omega(N)$

7. An undirected graph is _____ if there is a path from every vertex to every other vertex.

- [a] arcs [b] edges
 [c] connected [d] biconnected

8. If a graph is not biconnected the vertices whose removal would disconnect the graph are known as _____ point.

- [a] cut [b] disconnect
 [c] arc [d] articulation

9. A tree is a _____ tree: All nodes either are leaves or have two children.

- [a] full [b] partial
 [c] balanced [d] skew

10. The _____ reconstruction problem is to reconstruct a point set from the distance.

- [a] bin packing [b] games
 [c] turnpike [d] set

Section - B
 Answer ALL the Questions.

[5]

11. a) What is Stack? Explain how stack is used for infix to postfix conversion.

[OR]

b) Construct expression tree for the postfix expression $a b + c d e +$

12. a) What do you mean by separate chaining? Explain with example.

[OR]

b) Explain how to insert an element 5 into the binary heap
 6, 7, 12, 10, 15, 17, 5.

13. a) Write the shell sort program for the given input data 62, 83, 18, 53, 7, 17, 95, 86, 47, 69, 25, 28 and explain.

[OR]

b) With an example, explain the algorithm for quick sort.

14. a) Explain Dijkstra's shortest path algorithm with example.

[OR]

b) Write the pseudo code to perform topological sort.

15. a) What is the best way to schedule jobs in order to minimize the average completion time? Explain with example.

[OR]

b) Write an algorithm to generate Fibonacci series using recursion.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 08.05.2019

Course Code : 17PCSE33

Time : 2.00 p.m. to 5.00 p.m.

Course Title : Information Retrieval

Max Marks : 75

Section - A

[10 X 1 = 10]

**Answer ALL the Questions.
Choose the Correct Answer.**

- The result is a binary term document is called _____ matrix.

[a] Square	[b] Sparse
[c] Incidence	[d] Identity
- What fractions of the relevant documents in the collection were returned by the system?

[a] Precision	[b] Recall
[c] Reliability	[d] Scalability
- The weighting Scheme is referred to as _____.

[a] Min term frequency	[b] Max term frequency
[c] Short term frequency	[d] Term Frequency
- The idea of champion lists sometimes called as _____.

[a] fancy lists	[b] top docs
[c] short list	[d] both a & b

5. _____ classification divides the Vector space into regions centered on Centroids.
- [a] KNN
[b] Rocchio
[c] Bernoulli
[d] K - means
6. A _____ query is like any other query except that it is periodically executed on a collection to which new documents are incrementally added over time.
- [a] User
[b] Programmer
[c] Standing
[d] both a & b
7. Distance from the decision surface to the closest data point determines the _____ of the classifier.
- [a] Bottom
[b] Left
[c] Margin
[d] Top
8. The parameter C is a _____ term, which provides a way to control overfitting.
- [a] Regularization
[b] Geometric
[c] Functional
[d] Soft margin
9. _____ clustering does not require a prespecified number of clusters.
- [a] Co - clustering
[b] Partition
[c] Hierarchical
[d] Model - based
10. A _____ is a set of points that are completely linked with each other.
- [a] Single
[b] Double
[c] Complete
[d] Clique

Section - B
Answer ALL the Questions.

11. a) Define information retrieval with example. [OR]
- b) Explain how Tokenization is done in a defined document.
12. a) What is weighted zone scoring, is it necessary for all zones to use same Boolean match function? [OR]
- b) Explain the two components of an information retrieval system?
13. a) Describe in detail about Rocchio Classification with examples. [OR]
- b) Analyze the working principles of Nearest Neighbor algorithm with one representation.
14. a) What are the Machine learning methods in ad hoc information retrieval? [OR]
- b) Explain about applications of clustering algorithms.
15. a) Describe centroid clustering with examples. [OR]
- b) Describe in detail about divisive clustering and its process. [OR]
- Section - C**
Answer any THREE Questions. [3 X 10 = 30]
16. Where the wildcard queries can be used explain with example?
17. Explain the efficiency of scoring and ranking the documents.

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END SEMESTER EXAMINATION - APRIL 2019

Programme : M.Sc. Computer Science

Date : 07.05.2019

Course Code: 17PCSC23

Time: 10.00 a.m. to 1.00 p.m.

Course Title : Operating System

Max Marks :75

SECTION - A

[10 X 1 = 10]

Answer ALL the Questions.

Choose the Correct Answer.

1. Privileged mode (p) field of PSW is a _____ bit.
[a] two [b] zero
[c] Single [d] three
2. Time sharing system was developed during _____.
[a] 1975 [b] 1956
[c] 1980 [d] 1970
3. _____ is used to convey an exceptional situation to a process.
[a] message [b] signals
[c] status [d] call
4. In Windows other threads have priorities in range _____.
[a] 1-15 [b] 0-15
[c] 15-20 [d] 20-50

- 44
5. _____ allocator is used in Solaris 2.4 system
- [a] lazy buddy [b] karels
[c] power of two [d] slap
6. _____ page replacement uses principal of locality of reference.
- [a] optimal [b] FIFO
[c] LRU [d] IPT
7. _____ is used to implement secrecy of the authentication database.
- [a] encryption [b] authentication
[c] authorization [d] virus
8. MULTICS provides _____ protection domains that are organized as concentric rings.
- [a] 63 [b] 64
[c] 70 [d] 73
9. _____ is a repository for interprocess message.
- [a] Lock [b] Receive
[c] Send [d] Mailbox
10. Deadlock can be detected by checking for the presence of cycle in
- [a] RRAG [b] WGF
[c] RA [d] WF

SECTION - B

[5 X 7 = 35]

Answer ALL the Questions.

11. a) Compare hard and soft real time system

[OR]

- b) Define Distributed Operating System? Illustrate the features of distributed System.

12. a) Explain the process state transition diagram used in multiprogrammed environment.

[OR]

- b) What is Thread? Explain and differentiate between user level and kernel level thread.

13. a) Write a detailed note on Paging scheme of Memory management

[OR]

- b) Differentiate contiguous and non contiguous memory allocation methods.

14. a) Explain linked allocation of file in detail.

[OR]

- b) Describe windows file system.

15. a) Explain deadlock detection scheme.

[OR]

- b) Define deadlock? What are the necessary conditions for deadlock?

SECTION - C

[3 X 10]

Answer any THREE Questions.

16. Explain batch system and multiprogrammed system in detail.
17. Illustrate non preemptive scheduling policies.
18. Explain any two page replacement algorithms with a suitable example.
19. Discuss any two disk scheduling policies with examples.
20. Explain Banker's algorithm to avoid deadlock with suitable example.

