(6 pages) **Reg. No. :** .....

Code No. : 30174 E **Sub. Code : GMCS 61/ GMSE 61**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science/Software Engineering – Main

OPERATING SYSTEMS

(For those who joined in July 2012-2015 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Multiprocessor system is also known as ————————.

   (a) Asymmetric system

   (b) Symmetric system

   (c) Parallel system

   (d) None

2. The only state transition that is initiated by the user process itself is ————————.

   (a) dispatch

   (b) block

   (c) wakeup

   (d) none

3. Semaphore is a ———————— to solve the critical section problem.

   (a) Hardware for a system

   (b) Integer variable

   (c) Special program for a system

   (d) None

4. The address of the next instruction to be executed by the current process is provided by the ————————.

   (a) CPU register

   (b) program counter

   (c) process stack

   (d) pipe

5. A set of process is deadlock, if

(a) each process is blocked and will remain so for ever

(b) each process is terminated

(c) all process are trying to kill each other

(d) none

6. A deadlock state is a ———————— state.

(a) Secure (b) Unsecure

(c) Safe (d) Unsafe

7. The process of moving the program from disk into main memory is called ————————.

(a) swapping in (b) swapping out

(c) thrashing (d) prepaging

8. The ———————— in an operating system component concerned with the system's memory organization scheme and memory management strategies.

(a) memory manager (b) scheduler

(c) I/O manager (d) Device manager

9. ———————— is a computing technique in which you increase the size of a computer's memory.

(a) Virtual memory (b) Cache memory

(c) Primary memory (d) Secondary memory

10. ———————— is a program that can infect other program by modifying.

(a) Virus (b) Trojan house

(c) Trap door (d) None

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) What is multiprocessor scheduling? Explain.

Or

(b) Write a note on operating system objectives and its functions.

12. (a) What is process management? What are the activities associated with it.

Or

(b) Explain the deadlock avoidence.

13. (a) What are the different operations on process.

Or

(b) Define possible conditions for deadlock to access.

14. (a) Write a note on semaphores.

Or

(b) Why do we need segmentation? Explain.

15. (a) Discuss the concept of file management.

Or

(b) Explain different file access methods in detail.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

16. (a) Describe the development towards a distributed system.

Or

(b) Describe the evaluation of operating system.

17. (a) Discuss about process description.

Or

(b) Illustrate in detail about I/O buffering.

18. (a) Explain the method of handling deadlock.

Or

(b) Explain the following:
(i) File management
(ii) I/O system management.

19. (a) Describe paging in detail.

Or

(b) Describe segmentation in detail.

20. (a) Explain about file allocation methods.

Or

(b) Write a note on

(i) Directory structure

(ii) Disk scheduling.

———————

Reg. No. : .....

Code No. : 30175 E **Sub. Code : GMCS 62/ GMSE 62**

B.Sc. (CBCS) DEGREE EXAMINATION,

APRIL 2020.

Sixth Semester

Computer Science/Software Engineering

COMPUTER NETWORKS AND DATA COMMUNICATIONS

(For those who joined in July 2012-2015 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Which is an open wireless technology standard for exchanging data over short distance using short wavelength radio transmissions?

   (a) Ethernat (b) Sattelite

   (c) E.mail (d) Blue tooth

2. Transmission made are ————————, ————

   (a) Parallel , serial (b) Blutooth, WIFI

   (c) E mail , WIFI (d) WIFI, telnet

3. Sending a message to such a group is called ————————

(a) subnet (b) multi casting
(c) internet (d) none

4. Which is not a guided media

(a) coanial cable (b) twisted pair cable
(c) radio wave (d) fibre optic cable

5. ASCII stands for ————————

(a) American Standard Code for Information Interchange
(b) American Struggle code Information Exchange
(c) Architecture Surface Council of Information Instructions
(d) None of these

6. Sending a message to such a group is called ————————

(a) multi casting (b) subset
(c) telenet (d) none

7. One particular state is designated as ————————

(a) initial state (b) end state
(c) middle state (d) none

8. GSM stands for ————————.

(a) Geographic Symmetric Message
(b) Global System for Mobile Communication
(c) Geo Synchronized Message
(d) Geo Satellite Message

9. ICMP stands for ————————.

(a) Inter Communicate Message Processor
(b) Internet Control Message Protocol
(c) Information Control Message Processor
(d) Internet Communicate Message Protocol

10. A digital signature in

(a) Scanned Signature

(b) Signature in binary

(c) Enerypt signature

(d) Hand written signature

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the issues related to transmission impairment with example.

Or

(b) Discuss different transmission modes.

12. (a) Write a note on forward error correction method.

Or

(b) What are the data transfer modes?

13. (a) Write a note on internal organisation of network layer.

Or

(b) Explain presentation layer.

14. (a) Mention the functions of MAC and LLC layers.

Or

(b) How we can managing mobility in cellular networks?

15. (a) Discuss in detail about ISDN protocol architecture.

Or

(b) What is network security? Explain in detail.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Explain Unipolar and Bipolar line codes.

Or

(b) Explain with different types of data represenation.

17. (a) Elucidate the various Ethernet specification in wired LAN technology.

Or

(b) Write briefly about the architecture of LAN.

18. (a) Explain briefly about any three topologies in networks.

Or

(b) Explain the architecture of WAP gateway.

19. (a) Explain about WIFI technology.

Or

(b) Explain about error detection and correction techniques.

20. (a) Explain in detail about firewall.

Or

(b) Explain wilf example of RSA algorithm.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30176 E **Sub. Code : GMCS 63/ GMSE 63**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science/Software Engineering — Main

DATA MINING

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Data mining is

   (a) The actual discovery phase of a knowledge discovery process

   (b) The state of selecting right data for a KDD process

   (c) A subject oriented integrated time variant non volatile collection of data in support of management

   (d) None of the above

2. Which stage of data mining involves preparation and collection of data?

(a) Validation (b) Exploration

(c) Both (a) and (b) (d) Collection

3. Which algorithm is used to find correlations among different attributes in a data set?

(a) Associative algorithm

(b) Association algorithm

(c) Time series algorithm

(d) Series algorithm

4. Which of the following is used for frequent item set mining and association rule learning over relational database?

(a) Fp-growth (b) AIS

(c) Apriori (d) SETM

5. Classification is

(a) A subdivision of a set of examples into no. of classes

(b) A measure of accuracy

(c) The task of assigning a classification to set of examples

(d) None of the above

6. A decision tree is a tree in which every node is either a _____ or a decision node.

   (a) Leaf node (b) Root node

   (c) Both (a) and (b) (d) Sub node

7. Which method of analysis does not classify variables as dependant or independent?

   (a) Regression analysis

   (b) Discriminate analysis

   (c) Analysis of variance

   (d) Cluster analysis

8. Cluster is

   (a) Group of similar objects that differ significantly from other objects

   (b) Simply data in order prepare machine learning algorithm

   (c) Symbolic representation of facts

   (d) None of the above

9. A _____ technique is used to crawl through various web sources to collect required information, which enables a individual or company to promote business.

   (a) Text data mining

   (b) Web data mining

   (c) Spatial data mining

   (d) Time series data mining

10. Web mining is the application of

(a) Data mining (b) Text mining

(c) Both (a) and (b) (d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is data mining and Why data mining now?

Or

(b) Give some applications of data mining.

12. (a) Write a note on FP- Tree Algorithm.

Or

(b) Explain Apriori algorithm.

13. (a) What is classification and Define decision tree?

Or

(b) What is Naive Bayes algorithm?

14. (a) What is cluster analysis and what are the types of cluster analysis methods?

Or

(b) Elucidate the idea behind logistic regression.

15. (a) Define web mining and list out the types of web mining.

Or

(b) Explain web content mining.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Guidelines for successful data mining.

Or

(b) List and explain Data mining Applications.

17. (a) Explain Association rule.

Or

(b) Discuss and detail about OLAP.

18. (a) A novel association rule mining approach using TID.

Or

(b) Decision tree and Naivebayes classifier.

19. (a) Divide and conquer approach and parallel clustering approach to deal large database.

Or

(b) Explain the K-means method.

20. (a) Explain Web Usage Mining.

Or

(b) Explain Web Technology and its Characteristics in Web Mining.

———————

(6 pages)

Reg. No.:.....

Code No. : 30177 E **Sub. Code : GMCS 64/ GMSE 64**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science/ Software Engineering — Main

RELATIONAL DATABASE MANAGEMENT SYSTEM

(For those who joined in July 2012 - 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer

1. The data base environment has all the following components except
   (a) Users
   (b) Separate files
   (c) Database
   (d) Database administrator

2. Hierarchical model is also called ———————

(a) Tree structure

(b) Plex structure

(c) Normalize structure

(d) Table structure

3. It is possible to define a schema completely using

(a) VDL and DDL

(b) DDL and DML

(c) SDL and DDL

(d) VDL and DML

4. The statement in SQL which allows to change the definition of a table is

(a) Alter (b) Update

(c) Create (d) Select

5. A data manipulation command that combines the records from one or more table is called ———————

(a) Select (b) Project

(c) Join (d) Product

6. Which of the following is valid SQL type?

(a) Character (b) Numeric

(c) Float (d) All

7. In tuple relational calculus $P_1 \rightarrow P_2$ is equivalent to ——————

(a) $\neg P_1 \vee P_2$ (b) $P_1 \vee P_2$

(c) $P_1 \wedge P_2$ (d) $P_1 \wedge \neg P_2$

8. A subschema express

(a) The logical view

(b) The physical view

(c) The external view

(d) All the above

9. To delete a particular column in a relation the command used is ——————

(a) Update table

(b) Truncate column

(c) Alter, Drop

(d) Delete column

10. —————— function divides one numeric expression by another and returns the reminder.

(a) Power

(b) MOD

(c) ROUND

(d) REMAINDER

PART B — (5 × 5 = 25 marks)

Answer ALL questions, by choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write short notes on relational Database.

Or

(b) Explain about transaction management.

12. (a) Explain about alter and update command.

Or

(b) What are the arithmetic operations performed in SQL.

13. (a) Explain about various set operations in detail.

Or

(b) Write short notes on Aggregate Functions.

14. (a) What is functional dependency? Explain 1NF and 2NF.

Or

(b) Explain about Normalization

15. (a) Explain how to create views.

Or

(b) Write short notes on functions.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, by choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Explain:

(i) Data Storage

(ii) Querying

Or

(b) Explain in detail about db users and administrators.

17. (a) Write briefly about Relational Operations.

Or

(b) Write in detail about SQL.

18. (a) Explain:

(i) Nested Queries

(ii) Join Expression

Or

(b) Write in detail about SQL data type.

19. (a) Write about decomposition using functional dependencies.

Or

(b) Explain about BCNF and 3NF.

20. (a) Explain in detail about sequences.

Or

(b) What is Cursors? How they used in PL/SQL.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30383 E **Sub. Code : JMCS 61/ JMSE 61/SMCS 61**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science/Software Engineering – Main

OPERATING SYSTEM

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Submission of subsequent task for processing to the time its result becomes available ————.

   (a) Throughput (b) Response time

   (c) Turnaround time (d) Service time

2. SVC refers to ————————.

(a) system viable call

(b) system visible call

(c) serial visible call

(d) supervisory call

3. For waiting state, a process can only enter into ————————.

(a) running state (b) ready state

(c) new state (d) terminated state

4. An application process can create ———————— to execute.

(a) One thread (b) Two threads

(c) Three threads (d) Many threads

5. A semaphore that does not specify the order in which processes are removed from the queue is a ————————.

(a) strong semaphore

(b) weak semaphore

(c) binary semaphore

(d) general semaphore

6. Safe state is one where ————————.

(a) it is deadlock

(b) it is not a deadlocked state

(c) it is deadlock avoidance

(d) it is process and resource

7. The page replacement policy which uses the principle of locality of reference for its replacement decision ————————.

(a) FIFO (b) Optimal

(c) LRU (d) Clock

8. Memory compaction is used to eliminate ————————.

(a) external fragmentation

(b) page fault

(c) swapping

(d) none of these

9. The physical order of a record in a file, as determined by the access method, is known as ————————.

(a) file management system

(b) file organization

(c) file allocation table

(d) file structure

10. A record contain ————————.

(a) single data (b) multiple data

(c) related fields (d) logical flags

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write and discuss about Operating System generation.

Or

(b) Discuss about system calls.

12. (a) What is meant by IPC? Explain.

Or

(b) Discuss about multi process scheduling.

13. (a) How the deadlock is prevented? Explain.

Or

(b) Discuss about Peterson's solution for critical section problem.

14. (a) Explain swapping method in memory management.

Or

(b) Explain any one paging algorithm.

15. (a) Discuss about file system structure.

Or

(b) Write about directory implementation.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is a function Operating System?

Or

(b) Write in details about Operating System design and implementation.

17. (a) Write about the concept Operating System scheduling criteria.

Or

(b) What is thread? Write about thread scheduling.

18. (a) Write and explain dead avoidance method.

Or

(b) Explain the following :

(i) Critical section problem

(ii) Semaphores.

19. (a) Discuss about virtual memory with example.

Or

(b) Write about :

(i) Frames

(ii) Threading.

20. (a) Explain file allocation method.

Or

(b) Write about file sharing and protection.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30384 E **Sub. Code : JMCS 62/ JMSE 62**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science/Software Engineering – Main

RELATIONAL DATABASE MANAGEMENT SYSTEM

(For those who joined in July 2016 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. An attribute is a ———————— in a relation

   (a) row

   (b) column

   (c) value

   (d) tuple

2. In relational model, the row of table is know to be ————————

(a) Relation

(b) Entity - Field

(c) Tuple

(d) Attribute

3. Who proposed the relational model?

(a) Bill Gates

(b) Herman Hollerith

(c) Charles Babbage

(d) E.F. Codd

4. The minimal set of super key is called ————

(a) Primary key (b) Secondary key

(c) Candidate key (d) Foreign key

5. In SQL, Which of the following is not a data definition language command?

(a) Rename (b) Revoke

(c) Grant (d) Update

6. Which of the following SQL command is used to retrieve data?

(a) Select (b) Insert

(c) Delete (d) Join

7. E-R model uses this symbol to represent weak entity set.

(a) Dotted rectangle

(b) Diamond

(c) Doubly Outline Rectangle

(d) Rectangle box

8. In the———————— normal form, a composite attribute is converted to individual attributes.

(a) First (b) Second

(c) Third (d) Fourth

9. A stored procedure in SQL is a ————————

(a) Block of functions

(b) Group of SQL statements

(c) Stored functions

(d) Procedure

10. Triggers are supported in ————————

(a) Delete (b) Update

(c) Views (d) Select

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Mention the advantages of DBMS.

Or

(b) Write a note on Transaction Management.

12. (a) Examine the basic concept of relational database.

Or

(b) Enumerate the structure of SQL Queries.

13. (a) Illustrate the set Operation in SQL.

Or

(b) List out the five aggregate functions and write SQL Query with example.

14. (a) Elaborate attributes and its types.

Or

(b) Illustrate the components of ER Model.

15. (a) Give the syntax for CREATE, INSERT ALTER, UPDATE and DELETE Commands Demonstrate with suitable example.

Or

(b) How to create Views in PL/SQL? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the basic architecture of DBMS with a neat diagram.

Or

(b) Classify the different types of database languages in DBMS with example queries.

17. (a) Analyse the Relational Query Languages.

Or

(b) Specify the database schema approaches and draw a neat diagram.

18. (a) Elaborate the various data types in SQL.

Or

(b) Give explanation of nested sub queries with example.

19. (a) Clarify Third Normal Form with example.

OR

(b) Explain Boyce Codd normal form.

20. (a) Give an overview of assertions and Trigger.

Or

(b) Elucidate stored procedure.

———————

(6 pages)

Reg. No. : .....

Code No. : 30385 E **Sub. Code : JMCS 63/ JMSE 63**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science/Software Engineer – Main

COMPUTER GRAPHICS AND VISUALIZATION

(For those who joined in July 2016 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Each screen point is referred to as a ————————.

(a) point (b) pixel

(c) position (d) element

2. ———— function is used to retrieve the current frame-buffer intensity setting for a specified position.

(a) set pixel ( ) (b) put pixel ( )

(c) get pixel ( ) (d) return pixel ( )

3. The translation distances (t_x, t_y) is called as

(a) Translation vector

(b) Shift vector

(c) Both (a) and (b)

(d) Neither (a) nor (b)

4. A ———— transformation produces a mirror of an object.

(a) Rotation (b) Shear

(c) Reflection (d) Translation

5. A world coordinate area selected for display is called ————.

(a) Window

(b) View port

(c) Transformation

(d) Viewing transformation

6. The process of extracting a portion of a picture that is either inside or outside a specified region is called ————————.

(a) Viewing (b) Morphing

(c) Transforming (d) Clipping

7. Menus are used to select processing options is ———————— input device.

(a) Locator (b) Pick

(c) Choice (d) None of these

8. We can perform 3D rotation about ———————— axes.

(a) x (b) y

(c) z (d) all of these

9. ———————— is the color space used by the NTSC color TV system.

(a) RGB (b) CMY

(c) YIQ (d) All of these

10. ———————— projections that show more than one side of an object are called axonometric orthographic projections.

(a) Orthographic (b) Parallell

(c) Perspective (d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define Random scan system.

Or

(b) What is Buffer? Explain.

12. (a) Discuss Line width attribute.

Or

(b) Write Rotation transformation matrix.

13. (a) Write about the types of text clipping.

Or

(b) What is view port?

14. (a) Explain the interactive picture construction techniques.

Or

(b) Derive 3D Rotation Matrix.

15. (a) Discuss about Parallel Projection in 3D.

Or

(b) Explain RGB color model.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Derive Bresenham line drawing Algorithm.

Or

(b) Write and explain Circle algorithm.

17. (a) Discuss about flood fill algorithm.

Or

(b) Explain :

(i) Composite transformation

(ii) Scaling in 2-Dimension.

18. (a) Explain cohen-sutherland line clipping algorithm.

Or

(b) Explain in details about Polygon clipping.

19. (a) Discuss about orthographic projection.

Or

(b) Write in details about 3D scaling.

20. (a) What is the use of Depth Buffer? Explain.

Or

(b) Explain the following color model :

(i) YIQ

(ii) HSV.

———————

(6 pages)

Reg. No. : .....

Code No. : 30386 E **Sub. Code : JMCS 64/ JMSE 64**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science/Software Engineering – Main

DATA MINING

(For those who joined in July 2016 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The enterprise decision makers need to formulate goals that the data mining process is expected to achieve is ————————.
   (a) Requirement analysis
   (b) Data selection and collection
   (c) Data validation
   (d) Data mining exploration

2. Decision tree is ———— technique.

(a) Association rules mining

(b) Cluster analysis

(c) Supervised classification

(d) Search engine

3. Support (X) = ?

(a) Number of times X appears

(b) Total number of transactions (N)

(c) Number of times X appears/N

(d) N+X

4. Given the association rules $X \rightarrow YZ$ and $AB \rightarrow C$, which one of following is not true

(a) $X \rightarrow Y$ (b) $A \rightarrow C$

(c) $B \rightarrow AC$ (d) $X \rightarrow Z$

5. If the classes are created without looking at the data, the classification is called ————.

(a) objects

(b) apriori classification

(c) posteriori classification

(d) none

6. Decision tree is a ———— model.

(a) predictive (b) descriptive

(c) learning (d) both (a) and (b)

7. An ideal cluster analysis method should have ————.

(a) scalability

(b) minimal input parameters

(c) ability to stop and resume

(d) all the above

8. In cluster analysis, Distance is always ————.

(a) zero (b) positive

(c) negative (d) none

9. Which algorithms is used for web content mining?

(a) DIPRE (b) Path traversal

(c) HITS (d) None

10. ———— deals with understanding user behaviour in interacting with the web or with a web site.

(a) Web Content Mining

(b) Web Structure Mining

(c) Web Usage Mining

(d) Hyperlink

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe the steps in typical data mining process.

Or

(b) Describe the guidelines for successful data mining.

12. (a) What is association rules mining? Explain the basics and give examples.

Or

(b) Explain Naive algorithm with an example.

13. (a) What do you understands about Decision Tree? Explain Tree Induction Algorithm.

Or

(b) Describe the evaluation criteria for classification methods.

14. (a) Describe the features of cluster analysis.

Or

(b) Explain the types of cluster analysis methods.

15. (a) What is Web Mining? Describe the categories.

Or

(b) Explain about Web Document Clustering.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What kind of tasks in data mining suitable for? Discuss.

Or

(b) What are the aims of Data Mining Techniques? Explain.

17. (a) Explain Apriori Algorithm with an example.

Or

(b) Explain about FP–Growth.

18. (a) Explain partitioned methods in cluster analysis.

Or

(b) Briefly explain Hierarchical methods.

19. (a) Explain Split Algorithm based on information theory.

Or

(b) Explain Naive Bayes method for classification.

20. (a) Describe the importance of web usage mining.

Or

(b) Write about web structure mining.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30609 E **Sub. Code : SMCS 62**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science – Main

COMPUTER GRAPHICS AND VISUALIZATION

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Picture definition is stored in a memory area called the

   (a) refresh buffer

   (b) frame buffer

   (c) Either (a) or (b)

   (d) Cell

2. Expansion of line DDA algorithm is _____

(a) Digital Difference Analyzer

(b) Direct Differential Analyzer

(c) Digital Differential Analyzer

(d) Data Differential Analyzer

3. If the magnitude of the curve slope is lesser than 1, then _____

(a) We can plot horizontal spans

(b) We can plot vertical spans

(c) Both (a) and (b)

(d) None of these

4. _____ is a rigid body transformation that moves object without deformation.

(a) Rotation (b) Scaling

(c) Translation (d) All of the above

5. The process of elimination of part of a scene outside a window or a viewport is called

(a) Cutting (b) Plucking

(c) Clipping (d) Editing

6. For a point to be clipped, which of the following condition must be satisfied by the point?

(a) $yw_{min} < y < yw_{max}$

(b) $yw_{min} > y > yw_{max}$

(c) $yw_{min} = y = yw_{max}$

(d) $xw_{min} < x < xw_{max}$

7. In _____the application program initiates data entry.

(a) request mode (b) sample mode

(c) event mode (d) none of these

8. In a three-dimensional homogeneous coordinate representation of translation matrix is

(a) P'=T.P (b) P=t.P'

(c) P'=T+P (d) P=T.P

9. In a parallel projection, coordinate positions are transformed to the vied plane along _____lines.

(a) Perpendicular (b) Horizontal

(c) parallel (d) Vertical

10. Each position in the A-buffer has _____ fields

(a) three (b) four

(c) one (d) two

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Write short notes on Hard-Copy Devices.

Or

(b) Discuss the Midpoint Circle Algorithm.

12. (a) Give an account of Curve Attributes.

Or

(b) Discuss about Matrix representation of 2-D Geometric Transformation.

13. (a) Write about Viewing Coordinate Reference Frames.

Or

(b) Define Clipping operation. Explain the various types of Clipping Operations.

14. (a) Estimate the value of input using Locator Devices and Valuator Devices for Graphical Data.

Or

(b) Describe the String input, Choice input, Pick input in Request mode of Graphical Function.

15. (a) Write short notes on Viewing Pipeline in Three Dimensional.

Or

(b) Explain about Scan-Line method.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the following:

(i) Color CRT Monitors

(ii) Three Dimensional Viewing Devices

(iii) Stereoscopic and Virtual Reality Systems.

Or

(b) Write detailed notes on Line Drawing algorithms.

17. (a) Demonstrate the various attributes of Output Primitives.

Or

(b) Summarize about Composite Transformation.

18. (a) Clarify the Two-Dimensional Viewing Function.

Or

(b) Summarize about Cohen-Sutherland line Clipping.

19. (a) Investigate the Graphical Input Functions.

Or

(b) Outline about Rotation in Three Dimensional Transformation.

20. (a) Define Projection. Explain the various types of projections in Three Dimensions.

Or

(b) Explain in detail about Depth-Buffer Method.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30610 E **Sub. Code : SMCS 63**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science – Main

DATA WAREHOUSING AND DATA MINING

(For those who joined in July 2017 owards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. A ———————— could be a set of denormalised, summarised or aggregated data.
   (a) Metadata
   (b) data mart
   (c) EIS
   (d) Data query

2. The functionality of data transformation includes

(a) Removing unwanted data from operational databases

(b) Converting to common data names and definitions

(c) Calculating summaries and derived data

(d) All of the above

3. How many types of Database activity?

(a) 2 (b) 4

(c) 6 (d) 8

4. OLAP data servers can also go in the reverse direction and automatically display detail data which comprises consolidated data This is called

(a) Dicing (b) Consolidation

(c) Slicing (d) drill-downs

5. A ———————— query language can be designed to incorporate these primitives, allowing users to flexibly interact with data mining systems.

(a) Data mining

(b) Data Warehousing

(c) OLAP

(d) OLTP

6. Data mining often requires ———————— the merging of data from multiple data stores.

(a) Data cleaning

(b) Data integration

(c) Data Transformation

(d) Data Reduction

7. ———————— association rules can be mined efficiently using concept hierarchies under a support-confidence framework

(a) Multilevel (b) Multidimensional

(c) Rare patterns (d) Quantitative

8. The units in the hidden layers and output layer are sometimes referred to as ————————.

(a) neurons (b) Neurodes

(c) cell (d) None of these

9. An agglomerative hierarchical clustering method uses ———————— strategy.

(a) Top-down (b) Bottom-up

(c) Structural (d) Procedural

10. A tree structure called a clustering.

(a) Single-linkage

(b) dendrogram

(c) AGNES

(d) BIRCH

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write short notes on Data warehouse Database.

Or

(b) Describe the Tangible benefits.

12. (a) Enumerate the OLAP Guidelines.

Or

(b) Write the need for Application OLAP.

13. (a) Give an account of Data Mining Concept.

Or

(b) Denote the Integration of a Data Mining system with a Data Warehouse.

14. (a) Criticize the Apriori Algorithm.

Or

(b) Explain about Tree pruning in decision tree.

15. (a) Write short notes on DBSCAN.

Or

(b) Describe the Grid based clustering method.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain in detailed about Access Tools in Data Warehouse.

Or

(b) Summarize the design consideration for building Data Warehouse.

17. (a) Determine the importance of Multidimensional Data Model in OLAP.

Or

(b) Write brief notes on MOLAP.

18. (a) Clarify about what kind of data can be mined.

Or

(b) Illustrate the functionalities of Data Cleaning.

19. (a) Explain how to mining various kinds of Association Rules.

Or

(b) Write detail notes on Bayesian classification methods.

20. (a) Determine the concept of Cluster analysis.

Or

(b) Describe about Hierarchical Methods.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30612 E **Sub. Code : SECS 6 A**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science

Major Elective – INTERNET OF THINGS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— allows us to control electronic components.

   (a) RETfulAPI (b) RESTfulAPI

   (c) HTTP (d) MQTT

2. MQTT stands for ————.

   (a) MQ telemetry things

   (b) MQ transport telemetry

   (c) MQ transport things

   (d) MQ telemetry transport

3. MQTT is ———— protocol.

(a) Machine to Machine

(b) Internet of Things

(c) M2M and IOT

(d) Machine things

4. The message channel declares the ———— class attributes that defines the key string.

(a) Command_key (b) Command-key

(c) Command key (d) Key command

5. ———— specifies the function that will be called when there is a new message received from the channel.

(a) Reconnect (b) Error

(c) Connect (d) Call back

6. ———— specifies the function that will be called on an error event.

(a) Call back (b) Error

(c) Connect (d) Reconnect

7. Machine-to-Machine communication towards an emerging known as the ————.

(a) IOT (b) M2M

(c) M2M and IOT (d) MBM

8. Internet of Things needs a lot of network connection. What is the proposed "white Space" radio standard called?

(a) Bluetooth (b) Wi Max

(c) Weightless (d) Zig bee

9. The number of elements in the Open IoT Architecture?

(a) 6 elements (b) 8 elements

(c) 7 elements (d) 3 elements

10. The huge number of devices connected to the Internet of Things has to communicate automatically, not via humans. What is this called?

(a) Skynet

(b) Bot 2 Bot

(c) Machine 2 Machine

(d) Inter cloud

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give brief background of M2M.

Or

(b) Comparison between the main characteristics of M2M and IOT.

12. (a) Define introduction about a market perspectives of IOT.

Or

(b) Describe Standard considerations.

13. (a) Give outline about device characteristics and Device types.

Or

(b) Explain CRISP-DM Process Diagram M2M and IOT analysis.

14. (a) Give details about ETSI M2M resource management.

Or

(b) Draw OGC functional architecture and interactions.

15. (a) Give notes on Device and application functional group.

Or

(b) Describe Sensing and communications field.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain Details about Megatrends, Capabilities, Implications of IOT.

Or

(b) Briefly explain about Stress measurement of M2M solution and analysis solution.

17. (a) Compare Basic working definitions about M2M to IOT.

Or

(b) Describe briefly Main design principles and needed capabilities of M2M to IOT.

18. (a) Design the Structure of ETIS M2M functional architecture with explanation.

Or

(b) Draw and Explain Analytics Architectural Overview of M2M AND IOT analysis.

19. (a) Structuring ETSI M2M high-level architecture.

Or

(b) Briefly explained ETSI M2M service capabilities.

20. (a) Explain in detail Technical design constraints — hardware is popular again.

Or

(b) Illustrate with examples Data representation and visualization.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30613 E **Sub. Code : SECS 6 B**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Computer Science – Main

Major Elective – BIG DATA ANALYTICS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— velocity is about the speed at which data created accumulated ingested and processed.

   (a) Real time

   (b) Data

   (c) Unstructured Date

   (d) None of these

2. ———————— refers to data sets where size in beyond the ability of the typical database software tools to capture, store and analyze.

(a) Big data (b) Volume

(c) Database (d) SAA

3. ———————— risk management is a critical function that spans a diversity of business across a wide range of industries.

(a) Credit (b) Debit

(c) Cost (d) Market

4. ———————— management on a daily basis is a thing of the post because there are higher volatilities.

(a) Market (b) Risk

(c) Big data (d) Financial

5. ———————— is the storage system for a Hadoop clusters.

(a) Map reduce (b) HDFS

(c) NTFS (d) NFS

6. An ———————— is defined by its community of users and contributors.

(a) Open-source stack (b) Big data

(c) Cloud (d) None of these

7. ———————— environments can be either homogenous or heterogeneous commodity hardware environment.

(a) Cluster (b) Green

(c) Parallel (d) MPP

8. ———————— appliances place the storage, memory and computer into a single machine that is optimized for performance and scalability.

(a) HPC (b) MPP

(c) Cluster (d) Data store

9. ———————— innovations tend to be faster to create and can be relatively easier to replicate.

(a) Decremental (b) Incremental

(c) Cost (d) New

10. ———————— are middle managers driving analytical initiatives.

(a) Soliders

(b) Captains

(c) General

(d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) What are the three pinnack stages in the data systems?

Or

(b) What is Big data? Explain the three dimensions.

12. (a) Write short notes on credit risk management.

Or

(b) What are the behaviours is used for hybrid credit and fraud problems.

13. (a) Write about the two critical components of Hadoop.

Or

(b) Discuss about open-source technology for Big data analytics.

14. (a) Write short notes on clusters or grids.

Or

(b) Explain the three types of user-defined extensions by SQL.

15. (a) Write short notes on Agility.

Or

(b) Discuss innovation in bigdata analytics.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain in detail about Bigdata and why it is important.

Or

(b) Explain the expanding universe of unstructured data.

17. (a) Discuss in detail about risk and big data.

Or

(b) Explain in detail about disruptive analytics.

18. (a) Describe in detail about Hadoop's parallel world.

Or

(b) Explain the cloud and big data.

19. (a) Explain the big data computing platforms.

Or

(b) Explain the big data emerging technologies.

20. (a) Discuss in detail about rise of the data scientist.

Or

(b) Explain the Holistic view on Analytics.

———————

(6 pages)

Reg. No.:.....

Code No. : 30614 E **Sub. Code : SECS 6 C**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Computer Science — Main

Major Elective : NEURAL NETWORKS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer

1. A ———————— is used to learn patterns and relationships in data.

   (a) Computer network (b) Neural networks

   (c) Matlab (d) Node

2. ———————— computing is used to refer to the information engineering aspects of this research

(a) Cloud (b) Neuro

(c) Synapses (d) Grid

3. The ———————— learning rule, the learning signal is the differences between the desired and actual response

(a) Delta (b) LMS

(c) Perceptron (d) Competitive

4. A single layer perception as used in pattern classification is that, it is concerned with only a single

(a) Neuron (b) Associator

(c) Response (d) Network

5. ———————— is a systematic method for training multi–layer artificial neural network.

(a) BPR (b) FFN

(c) BPN (d) ANN

6. The ———————— Hope field net is a fully interconnected neural net with each unit connected to every other unit

(a) Discrete (b) Feed back

(c) System (d) All the above

7. ——————— networks, target values are available for the input training pattern and the learning is supervised

(a) LVQ (b) SOM

(c) Vector reference (d) Neural

8. The architecture of a counter propagation network resembles an ——————— and ——————— model

(a) In star and our star (b) Front and back

(c) 1st and 2nd (d) None of these

9. ——————— implementations in bankruptcy fore casting become more and more numerous

(a) Artificial neural networks

(b) Application neural networks

(c) Image analysis

(d) Single analysis

10. ——————— IDS system defect attacks for an individual system using system logs and operating system audit trails

(a) Network based (b) Host based

(c) Misuse (d) Network vigilance

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is neural networks? Explain the capabilities of neural networks.

Or

(b) Explain the different fields of neural networks.

12. (a) Explain the architecture MC culloch pitts neuron model.

Or

(b) What is Hebbian learning Rule? Explain.

13. (a) What is back propagation network? Explain.

Or

(b) What is redial basis function network? Explain.

14. (a) What are the methods used for determining the winner?

Or

(b) Describe the learning vector quantization.

15. (a) Explain the classification of intrusion defection system.

Or

(b) Describe the multilayer perception.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Discuss the basic building blocks of artificial neural networks.

Or

(b) Explain

(i) Weights in artificial neural network

(ii) Sigmodial function

17. (a) Explain the learning rule in fundamental model of artificial neural networks.

Or

(b) Explain in detail about single layer perception.

18. (a) Explain the feed formed network.

Or

(b) Write an training algorithm for RBFN with fixed centers.

19. (a) Describe the Kohonen self organizing features maps.

Or

(b) Write a MATLAB program for drawing features in two dimensional view.

20. (a) Explain the application of neural networks in bio informates.

Or

(b) Discuss in detail about neural networks in fore casting.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30603 E **Sub. Code : SMCS 41/ SMSE 41**

B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2020.

Fourth Semester

Computer Science / Software Engineer – Core

VISUAL BASIC

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Microsoft's Visual Basic language were launched early in ————

   (a) 1960s

   (b) 1970s

   (c) 1980s

   (d) 1990s

2. In Visual Basic, a variable name cannot be more than ———— characters.

(a) 255 (b) 300

(c) 355 (d) 400

3. ———— is a method which moves the focus to the specified control or form.

(a) Lostfocus

(b) Gotfocus

(c) Setfocus

(d) None of these

4. ———— method is used clear the contents in MSFlexGrid control.

(a) Clr

(b) Cls

(c) RemoveItem

(d) Clear

5. ODBC stand for ————

(a) Open Distributed Connectivity

(b) Open Database Connectivity

(c) Open Direct Connectivity

(d) Open Direction Connectivity

6. Which are used to access a remote database through ODBC?

(a) Remote Distributed Objects

(b) Rear Data Objects

(c) Resource Data Objects

(d) Remote Data Objects

7. ———— control is used to link and embed objects.

(a) Object Linking Engine

(b) Object Linking Embedding

(c) Open Linking Engine

(d) Open Linking Embedding

8. A ———— is a combination of code and data that can be treated as a unit.

(a) Class (b) Form

(c) Object (d) Control

9. Extension of ActiveX Designers ————

(a) .dsr

(b) .axd

(c) .adx

(d) None of these

10. ———————— control displays current directory with any sub directories and allows the user to change directly.

(a) DriveListBox

(b) DirListBox

(c) ListBox

(d) FileListBox

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain different datatypes with examples.

Or

(b) Differentiate listbox and combbox with example.

12. (a) Explain briefly on mouse events in Visual Basic.

Or

(b) Discuss briefly on Multiple Document Interface.

13. (a) How does work with different components of Open Database Connectivity?

Or

(b) Describe cursor drives in Remote Data Objects.

14. (a) Write short note on Object Linking and Embedding container controls.

Or

(b) What are class modules in Visual Basic? Explain.

15. (a) Explain the connection object in Visual Basic.

Or

(b) How to read files in Visual Basic? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) How to develop an application in Visual Basic? Explain with neat diagram.

Or

(b) Describe any five controls in Visual Basic with example.

17. (a) Discuss different dialog boxes with example.

Or

(b) How to use MSFlexGrid control with example.

18. (a) Describe Open Database Connectivity working principles with neat diagram.

Or

(b) What is Remote Data Object? Explain in detail.

19. (a) Explain Object Linking and Embedding automation objects.

Or

(b) Discuss objects and classes in Visual Basic.

20. (a) Describe overview of ActiveX Data Objects.

Or

(b) How to copy and move a file? Explain with example.

———————

(6 pages) **Reg. No. :** .....

Code No. : 30606 E **Sub. Code : SMCS 43/ SMSE 43**

B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2020.

Fourth Semester

Computer Science/Software Engineer – Core

RELATIONAL DATABASE MANAGEMENT SYSTEM

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which is collection of interrelated data and set of program to access them?
   (a) Programming Language
   (b) Database
   (c) Database Management System
   (d) Data Structure

2. Which of the user write program in host language and embed the DML statements into it?

   (a) Sophisticated user

   (b) Specialized user

   (c) Naive user

   (d) Application Programmer

3. Schema Definition is written by ————————.

   (a) Database Administrator

   (b) Storage Manager

   (c) Database Manager

   (d) Application Developer

4. Which command is used to remove a relation from an SQL database?

   (a) Delete (b) Drop

   (c) Remove (d) Kill

5. Identify a fundamental operation in relational algebra?

   (a) Set intersection

   (b) Natural join

   (c) Project

   (d) Assignment

6. What values does the count (*) function ignore?

(a) Repetitive values

(b) Characters

(c) Integers

(d) Null values

7. An ———— is a set of entities of the same type that share the same properties, or attributes.

(a) Entity set (b) Attribute set

(c) Relation set (d) Entity model

8. Which normal form a composite attribute is converted to individual attributes?

(a) Second (b) First

(c) Third (d) Fourth

9. The oracle environment of database is called as ————.

(a) Database Schema

(b) Data Structure

(c) Database instances

(d) All of the mentioned

10. How many types of literals are available in PL/SQL?

(a) 6 (b) 4

(c) 3 (d) 5

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) List and explain any five applications of DBMS.

Or

(b) Write short note on information retrieval.

12. (a) Explain the following :

(i) Super key

(ii) Candidate key.

Or

(b) Give short note on CREATE command in SQL.

13. (a) Explain UNION set operation with example.

Or

(b) Write short note on integrity constraints.

14. (a) Explain briefly generalization in Enhanced Entity-Relationship model.

Or

(b) What is the use of data normalization? Explain.

15. (a) What are the advantages of oracle?

Or

(b) Discuss briefly creating sequence with example.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss purpose of database systems.

Or

(b) Explain database architecture with neat diagram.

17. (a) Explain schema diagram with example.

Or

(b) Explain the following SQL command.

(i) Insert

(ii) Select.

18. (a) Discuss INTERSECTION set operation with example.

Or

(b) Describe nested sub queries with example.

19. (a) Explain the following with suitable example.

(i) Entity

(ii) Attributes.

Or

(b) Discuss third normal form with example.

20. (a) How to modify a table in oracle? Explain.

Or

(b) Explain functions in PL/SQL.

———————

(6 pages)

Reg. No. : .....

Code No. : 30607 E **Sub. Code : SMCS 51**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

Fifth Semester

Computer Science – Core

SOFTWARE ENGINEERING AND TESTING

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. RAD stands for ————————.
   (a) Relative Application Development
   (b) Rapid Application Development
   (c) Rapid Application Document
   (d) None

2. Which one of the following is not a phase of prototyping model?

   (a) Quick Design

   (b) Coding

   (c) Prototype Refinement

   (d) Engineering Product.

3. Identify the sub process of Process Improvement

   (a) Process Introduction

   (b) Process Analysis

   (c) De-Processification

   (d) Process Distribution

4. The environment that supports the software project is called

   (a) CLSS (b) SEE

   (c) FAST (d) CBSE

5. Which is the first step in the software development life cycle?

   (a) Analysis

   (b) Design

   (c) Problem definition

   (d) Problem Identification

6. A Step by step instruction used to solve a problem is known as

(a) Sequential structure

(b) A list

(c) A plan

(d) An algorithm

7. What establishes the profile of end-users of the system?

(a) Design Model (b) User's Model

(c) Mental Image (d) System Image

8. What is Cyclomatic Complexity?

(a) Black Box Testing (b) White Box Testing

(c) Yellow Box Testing (d) Green Box Testing

9. Inspections and testing are what kinds of Quality costs?

(a) Prevention (b) Internal Failure

(c) External Failure (d) Appraisal

10. Which of the following manuals is not a users documentation?

(a) Beginner's Guide (b) Installation Guide

(c) Reference Guide (d) SRS

PART B — (5 × 5 = 25 marks)

Answer ALL questions by choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is Software Engineering? Explain.

Or

(b) How is object oriented software development differ from traditional software development?

12. (a) Explain iterative waterfall model for software life cycle and discuss various activities.

Or

(b) Explain about prototyping model.

13. (a) Explain about the various design concepts considered during design.

Or

(b) Explain about structured design.

14. (a) Describe the golden rule for interface design.

Or

(b) Explain boundary value analysis.

15. (a) What is software quality? Explain.

Or

(b) Explain about Hardware (vs) Software Reliability.

PART C — (5 × 8 = 40 marks)

Answer ALL questions by choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain basic concepts of object orientation.

Or

(b) Discuss briefly about Spiral Model.

17. (a) Explain about good characteristic of SRS document.

Or

(b) Discuss about functional requirements.

18. (a) Explain Software Design and its design activities.

Or

(b) Explain detailed Design Characteristics.

19. (a) Write briefly about black-box testing.

Or

(b) Elaborate briefly about software documentation.

20. (a) Explain about ISO 9000 for Software Industry.

Or

(b) Write briefly about Software Reverse Engineering.

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