ISLAMIAH COLLEGE [AUTONOMOUS]
VANIYAMBADI
CIA TEST II – MAR 2020

TIME: 3 Hrs **MAX. 75 MARKS**

Class: III-B.C.A/B.Sc CS/CSE Semester VI
Sub. Code: U5CS6001/U5BC6001

Subject Name: Computer Graphics & Multimedia

PART-A (10 X 2 = 20 MARKS)
Answer ALL Questions

1. Define pixel and frame buffer.
2. What is the role of video controller in raster scan system?
3. Define the conditions that identify a point as inside or outside a circle.
4. What is an interior clipping?
5. Why are homogeneous coordinates used for transformation computations in Computer Graphics?
6. Mention any two advantages of Sutherland line clipping.
7. Specify the matrix representation of 3D reflection on XY-plane.
8. What is depth buffer method? and write disadvantages.
9. Give example of image space visibility algorithms.
10. List any five digital audio editing operations.

PART-B (5 X 5 = 25 MARKS)
Answer ALL Questions

11. (a) Digitize a line between two points (20,10) and (35,18) using DDA line generation algorithm.

(Or)

(b) Prove that the multiplication of three-dimensional transformation matrices for the following sequence of operations is commutative any two successive translation.

12. (a) Discuss steps and give matrix to transform an object from window to viewport.

(Or)

(b) A triangle is defined by vertices A(2,2), B(4,2), and C (4,4). Find the transformed coordinates of the triangle after rotation about origin through 90^0 Followed by reflection about the line y = - x.

13. (a) What are the various transformation possible in 2D? Discuss it.

(Or)

(b) Explain Perspective Projection.

14. (a) Apply Z-Buffer Method for hidden surface removal with an example.

(Or)

(b) Explain Depth Cueing.

15. (a) Write short notes on Output Primitives.

(Or)

(b) Explain different file formats used in Multimedia.

PART-C (3 X 10 = 30 MARKS)
Answer any THREE Questions

16. Generate a circle of radius 13 about origin using Bresenham circle generation algorithm.

17. Given a clipping window A(20,20), B (60,20), C (60,40), D (20,40). Using Sutherland Cohen algorithm find the visible portion of the line segment joining the points P(40,80) and Q(120,30)

18. Enumerate in detail about Three Dimensional Transformations.

19. Demonstrate the A-Buffer method's algorithm. Give its important advantages over Z-buffer algorithm.

20. Describe the various input devices available for personal computers and how they may be used in multimedia production and delivery?

(PM/PMF/DV)

ISLAMIAH COLLEGE [AUTONOMOUS]
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CIA TEST II – MARCH 2020

TIME : 3 Hrs **MAX. 75 MARKS**

Class: III B.Sc.,(SW) **Semester: VI** **Sub. Code: U5SW6001**

Subject Name: SOFTWARE TESTING TECHNIQUES

PART-A (10 X 2 = 20 MARKS)
Answer ALL Questions

1. What is testing? What is the purpose of testing?
2. Differentiate between testing and debugging.
3. Define loops.
4. Name few paths testing expression.
5. Name the opposite of MITOSIS.
6. What is case statement?
7. Expand: SIMD, MIMD.
8. Define walk through?
9. Define partition testing.
10. What is mean by linear predicates?

PART-B (5 X 5 = 25 MARKS)
Answer ALL Questions

11. (a) Discuss the advantages of testing with reference to the software product.

(Or)

(b) What are the three quality aspects of software quality?

12. (a) Write short note on: (i) Paths (ii) Nodes (iii) Links

(Or)

(b) Describe blindness in detail.

13. (a) Write note on :(i) Process block (ii) decisions (iii) Junctions.

(Or)

(b) Briefly explain flow graph program correspondence

14. (a) List the steps / tasks involved in transaction for an online information retrieval system.

(Or)

(b) List the Von-Neumann architecture microinstruction sequence.

15. (a) Elaborate the domain-testing strategy.

(Or)

(b) List the rules provided by cyclomatic complexity.

PART-C (3 X 10 = 30 MARKS)
Answer any THREE Questions

16. Elaborate on the principles of software testing and summarize the tester role in software development organization.
17. Discuss in detail about path predicate expressions.
18. Briefly discuss all kinds of loops in details.
19. Explain the following. (i) Slicing (ii) Dicing.
20. Discuss the hybrid metrics in detail.

(Prof. AV/BJA)

ISLAMIAH COLLEGE [AUTONOMOUS]
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CIA TEST II – MARCH 2020

TIME: 3Hrs **MAX. 75 MARKS**

Class: III B.SC (CS/ECS)/BCA/SW **SEMESTER-VI**
SUB.CODE:U5CS6002/U5BC6002/U5SW6002

Subject Name: DATABASE MANAGEMENT SYSTEM

PART-A (10 X 2 = 20 MARKS)
Answer ALL Questions

1. What is an entity, entity type, entity set?
2. Name the three most widely accepted record based data models.
3. Differentiate between procedural and non-procedural languages.
4. What are relationship, relationship set, and relationship type?
5. What are Views? Why they can't be used for updates?
6. Distinguish between static and dynamic SQL.
7. State Armstrong's axioms for functional dependency.
8. What is lossy decomposition?
9. List out the applications of distributed systems.
10. Define fragmentation.

PART-B (5 X 5 = 25 MARKS)
Answer ALL Questions

11. (a) How the logical structure of a database can be expressed graphically by an E-R diagram?

(Or)

(b) List four significant differences between a file-processing system and a DBMS.

12. (a) Explain the division operations with its importance.

(Or)

(b) Elaborate extended relational algebra operations.

13. (a) Explain various Set operations in SQL.

(Or)

(b) Enumerate various aggregate functions available in SQL.

14. (a) Suppose that we decompose the schema R= (A, B, C, D, E) into (A, B, C) and (A, D, E).Show that this decomposition is lossless decomposition if the set F of functional dependencies holds: A→ BC, CD→E, B→D, E→A.

(Or)

(b) Explain canonical cover and extraneous attributes with examples.

15. (a) With neat diagram draw the server system architecture.

(Or)

(b) Define the terms with examples: (i) isolation (ii) consistency (iii) atomicity (iv) durability

PART-C (3X 10 = 30 MARKS)
Answer any THREE Questions

16. Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.

17. Explain the basic relational algebra operations with the symbol used and an example for each.

18. Name the different types of joins supported in SQL.

19. State the goal of decomposition / normalization. Explain the different level of normalization.

20. Processors speeds have been increasing much faster than memory access speeds. What impact does this have on the number of processors that can effectively share a common memory?

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CIA TEST II – MARCH 2020

TIME: 3 Hrs **MAX. 75 MARKS**

Class:III-B.C.A/III CS/III ECS/III SW Semester-VI
Sub.Code: U5BC6003/U5CS6003/U5SW6003

Subject Name: OPERATING SYSTEM
PART-A (10 X 2= 20 MARKS)
Answer ALL Questions

1. Differentiate between Distributed System and Real-time System.
2. What is DMA?
3. Given n processes to be scheduled on one processor, how many different schedules are possible?
4. List out the different types of Scheduling Criteria.
5. What is Swapping?
6. How many page fault occurs in 1,4,1,6,1,6,1 if the frame size is 3, using FIFO algorithm?
7. List the various file attributes.
8. Can a direct access file be read sequentially? Explain.
9. Mention the security measures at different levels of computer system.
10. What is Trojan horse?

PART-B (5 X 5= 25MARKS)
Answer ALL Questions

11. (a) What is the purpose of the command interpreter? Why is it usually separate from the kernel?

(OR)

(b) List the four steps needed to run a program on a completely dedicated machine.

12. (a) What is Scheduling? What criteria affect the scheduler's performance?

(OR)

(b) Suppose that a system is in an unsafe state. Show that it is possible for the processes to complete their execution without entering a deadlock state.

13. (a) Under what circumstances do Page Faults occur? Describe the actions taken by the operating system when a Page Fault occurs.

(OR)

(b) Given memory partitions of 100KB,500KB,200KB,300KB and 600KB, how would each of the first fit, best fit and worst fit algorithms place processes of 212KB,417KB,112KB and 426KB? Which algorithm makes the most efficient use of memory?

14. (a) Write a short note on file access with its command and security concerns.

(OR)

(b) Consider a System that supports the strategies of Contiguous, Linked, and Indexed allocation. What criteria should be used in deciding which strategy is best utilized for a particular file?

15. (a) What is Protection and explain domain of protection in briefly.

(OR)

(b) A Password may become known to other users in a variety of ways. Is there a simple method for detecting that such an event has occurred? Explain in briefly.

PART-C (3 X 10 = 30 MARKS)
Answer any THREE Question

16. What is the main difficulty that a programmer must overcome in writing an operating system for a real-time environment?

17. Suppose that the following processes arrive for execution at the times indicated. Each process will run the listed amount of time. In answering the questions, use Non-Preemptive Scheduling and based on all decisions on the information you have at the time the decision must be made.

Process:	**P1**	**P2**	**P3**
Burst time:	**8**	**4**	**1**

A. Calculate the average turnaround time and average waiting time for these processes with the FCFS Scheduling Algorithm.
B. Illustrating in the execution of processes using arrival time **[0.0, 0.4, and 1.0]** in SJF Scheduling Algorithm.
C. Calculate the average waiting time and average turnaround time in the processes using **[Quantum=10]** in Round Robin Scheduling Algorithm.
D. Calculate the average waiting time and average turnaround time in the execution of processes using priority **[3, 1, and 2]** in Priority Scheduling Algorithm.

18. Consider the following page reference string:1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6. Find the number of page faults the following replacement in frames=3?
(i) FIFO Page Replacement (ii) LRU Page Replacement (iii) Optimal Page Replacement.

19. Suppose that a disk drive has 200 cylinders, numbered from 0 to 199. The head is initially at cylinder 53.The queue of pending requests, in FIFO order, is:98,183,37,122,14,124,65,67 starting from the current head position, What is the total distance (in Cylinders) that the disk arm moves to satisfy all the pending requests for each of following disk scheduling algorithms?
a) FCFS b)SSTF c)SCAN d)LOOK e)C-SCAN f)C-LOOK.

20. Discuss the strengths and weaknesses of implementing an access matrix using capabilities that are associated with domains.

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TIME: 3 Hrs **MAX. 75 MARKS**

Class : III Year BSC/BCA/BSW **Subject Code: U5CS6004/U5BC6004/U5SW6004**

Subject Name: Open Source Programming

PART-A (10 X 2 = 20 MARKS)
Answer ALL Questions

1. How to enable drawing of graphics in web pages?
2.How to link to a location in the middle of an HTML document?
3.What types of loops exist in PHP?
4. What are Predefined Constants in PHP?
5.Why it is a good idea to explicitly to declare properties within a class.
6.What is NaN? What is its type? How can you reliably test if a value is equal to NaN?
7.What does this mean in Perl: '$_' and '->
8.What is the most important pragma in Perl and why?
9. Find the output: a,b,c,d=25,0x25,0o25,0b1101; print(a,b,c,d)
10.What a pass statement does in python?

PART-B (5 X 5 = 25 MARKS)
Answer ALL Questions

11. (a)Compare RGB values with Hexadecimal color codes?

(Or)

(b)What are the five possible values for “position” in CSS?

12. (a)Write a PHP program to print Floyd's triangle.

1
23
456
78910
1112131415

(Or)

(b) What is a final class? What about a final method?

13. (a). Write a JavaScript blinking text on the screen.

(Or)

(b)What kind of loops are in JavaScript? Explain in detail.

14. (a)Write a module to calculate the area of a rectangle in Perl.

(Or)

(b) Explain different types of operators in the Perl?

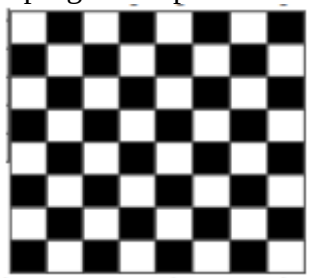
15. (a) Create two lists. Apply at least ten different methods on them.

(Or)

(b) What is the role of following characters in python (i) | (ii) ^ (iii) & (iv) // (v) % (iv) ~.

PART-C (3X 10 = 30 MARKS)
Answer any THREE Questions

16. Enlist the various fonts’ attributes with examples?
17. Write a PHP program to print the following Chess Board.



18. How will you validate a form using JavaScript? Write a code to validate the fields like name, email, password and phone number?
19. Write a Perl script to count the number of each words from a file.
20. Write python code to print odd numbers upto 100 using (i) do (ii) while (iii) for (iv) list comprehension (v) using function (iv) range

(**Prof.DR.HFA,PM,NFT,DV)**