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2B6A23029 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2023

BCS6B12 – Computer Graphics

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks : 80

PART A
Answer all questions

1 Define pixel.

2 Give matrix representation for reflection transformation.

3 Define homogenous co-ordinate system.

4 Find the matrix that represents rotation of an object by 45^{o} about the origin.

5 Write pros and cons of Bresenham's line drawing algorithm.

6 What is Frame buffer ?

7 List any two applications of computer graphics.

8 What is eight-neighbour connectedness?

9 What is meant by scan conversion?

10 What is colour gamut?

11 What is RGB colour model ?

12 What is GIMP ?

13 What is meant shear transformation ?

14 What is workstation transformation?

15 Define viewport.

(15 x 2 = 30 , Maximum ceiling 25 marks)

PART B
Answer all questions

16 Explain window to viewport transformation.

17 Explain area filling algorithm.

18 Write a note on CMY colour model.

19 Write matrix representations for conversions from RGB values to YIE and CMY values.

20 Explain random-scan system with a diagram.

21 Illustrate DDA algorithm.

22 Write flood filling algorithm.

23 Give matrix representations of 2D translation, scaling and rotation.

(8 x 5 = 40, Maximum ceiling 35 marks)

PART C
Answer any two questions

24 Explain geometric transformations in detail.

25 Illustrate Cohen - Sutherland line clipping algorithm.

26 Give a detailed account of display devices.

27 Apply Bresenham's algorithm to draw a line with end point (30,20) and (40,28).

(2 x 10 = 20 marks)

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2B6A23030 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2023

BCS6B13 – Mobile Operating System

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks : 80

PART A
Answer all questions

1 What are the advantages of Android?

2 Figure out High-level view of the Android software stack.

3 What is an Android Emulator?

4 How is View helpful in the development of Android applications?

5 Write down any four Android Java Packages.

6 What is Implicit Intent?

7 Mention any four artifacts of an Android application.

8 What is GET_CONTENT?

9 What is match_parent and wrap_content?

10 What is a Fragment manager?

11 Why does the start Activity() method be used?

12 Can a List View contain more than one view?

13 Name any four subclasses of Fragment.

14 What is cursor in android?

15 What is Database Helper in Android?

(15 x 2 = 30, Maximum ceiling 25 marks)

PART B

Answer all questions

16 Illustrate the fundamental components of Android.

17 With a neat diagram, discuss the concept of Android life cycle.

18 What is an AVD? What do you use it for?

19 How can we use an intent to invoke an activity?

20 Write notes on: (a) grid view (b) adapter view

21 What is the difference between android:gravity and android:layout_gravity?

22 How database manipulation is implemented in Android using SQLite?

23 Explain about bound and unbound services.

(8 x 5 = 40, Maximum ceiling 35 marks)

PART C

Answer any two questions

24 Give a detailed account of the Android Software Stack Structure.

25 Discuss about Android Resources?

26. What is the use of Layouts in android? Explain any five layouts used in android.

27 What are the major functions provided by SQLiteOpenHelper class and SQLiteDatabase class to create a database application in android. Explain.

(2 x 10 = 20 marks)

2B6A23031 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2023

BCS6B14– System Software

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A
Answer all questions

1. Distinguish between Linker and loader.
2. What are the different types of assemblers?
3. Give two examples for compilers
4. What are binders?
5. What is an overlay? Explain.
6. Differentiate compilers and interpreters.
7. Give any four features of macros.
8. List phases in the compilation process.
9. List any 4 system softwares.
10. Write notes on conditional macro expansion.
11. Give any four functions of an operating system.
12. What is a symbol table? Explain.

(12 x 2 = 24 , Maximum ceiling 20 marks)

PART B
Answer all questions

13. List and explain the different machine independent loader features.
14. Describe the concept of program blocks with a proper example.
15. Explain dynamic linking processes.
16. Design an algorithm for an absolute loader.
17. What do you mean by recursive macro expansion? What are the possible problems associated with it?
18. Explain the algorithm for a one pass assembler.
19. What is parsing? Explain its role in the compilation process.

(7 x 5 = 35, Maximum ceiling 30 marks)

PART C
Answer any one question

20. What is a Lexical analyser? Explain various stages of lexical analysis.

21. Justify the need for having two passes in a linking loader. Illustrate the data structures used for a linking loader, showing how they are used in each pass.

(1 x 10 = 10)

2B6A23032 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2023

BCS6F01– Cloud Computing

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A
Answer all questions

1. Define PaaS (Platform as a Service)
2. Compare Cloud Computing and Grid Computing.
3. What are the characteristics of Cloud Computing?
4. Write a note on Google's Cloud Storage.
5. Define Virtualization. What is its use.
6. What is KVM? What is it used for?
7. What is meant by Cloud Orchestration?
8. What is Service Level Agreement (SLA)? What is its role?
9. Discuss block storage and its uses.
10. Write a note on Hadoop environment.
11. Discuss Application Security in security architecture design.
12. What is Security Monitoring in Cloud Security?

(12 x 2 = 24 , Maximum ceiling 20 marks)

PART B
Answer all questions

13. Illustrate various service models for cloud computing.
14. Differentiate High Performance Computing and High Throughput Computing.
15. What are Virtual Machine Managers? Explain Xen Architecture.
16. Differentiate Hypervisor and Para-Virtualization.
17. Draw and explain Amazon Cloud Computing Infrastructure.
18. Compare and contrast MapReduce and Iterative MapReduce.
19. How desktop security is achieved through virtualization?

(7 x 5 = 35, Maximum ceiling 30 marks)

PART C

Answer any one question

20. Explain various components and constraints in Cloud computing infrastructure.

21. Enumerate various Cloud security challenges.

(1 x 10 = 10 Marks)