27

1B6A24279 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2024

BCS6B12 - Computer Graphics

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks :

PART A
Answer all questions

1. Define aspect ratio.
2. Draw the architecture of a CRT
3. List any two applications of computer graphics.
4. What is eight-way symmetry in a circle?
5. What is meant by scan conversion?
6. Write pros and cons of Bresenham's line drawing algorithm.
7. What is meant by shear transformation?
8. Define Translation.
9. Define reflection.
10. Draw the two dimensional viewing –transformation pipeline.
11. What is line clipping procedure?
12. Define Viewport.
13. What is GIMP?
14. What are primary colours and complementary colours ?
15. What is colour gamut?

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

PART B
Answer all questions

16. Explain random-scan system with diagram.
17. Write Bresenham's line algorithm.
18. Write flood-fill algorithm.
19. Explain Two dimensional rotation in detail.
20. Explain window to viewport transformation.
21. Illustrate Cohen Sutherland line clipping algorithm.
22. What is homogeneous coordinate system? Explain two dimensional Scaling. Represent its matrices with homogenous system.
23. Explain image manipulation using GIMP

(8x5 = 40, Maximum ceiling 35 marks)

PART C
Answer any two questions

24. Give a detailed account on display devices.
25. Illustrate midpoint circle algorithm for r=10.
26. What is RGB colour model? Explain the conversions from RGB values to YIQ and CMY values.
27. Illustrate Sutherland and Hodgman polygon clipping.

(2 x 10 = 20 Marks)

PART B
Answer all questions

16. Explain random-scan system with diagram.
17. Write Bresenham's line algorithm.
18. Write flood-fill algorithm.
19. Explain Two dimensional rotation in detail.
20. Explain window to viewport transformation.
21. Illustrate Cohen Sutherland line clipping algorithm.
22. What is homogeneous coordinate system? Explain two dimensional Scaling. Represent its matrices with homogenous system.
23. Explain image manipulation using GIMP

(8x5 = 40, Maximum ceiling 35 marks)

PART C
Answer any two questions

24. Give a detailed account on display devices.
25. Illustrate midpoint circle algorithm for r=10.
26. What is RGB colour model? Explain the conversions from RGB values to YIQ and CMY values.
27. Illustrate Sutherland and Hodgman polygon clipping.

(2 x 10 = 20 Marks)

28

1B6A24280 (Pages : 2) Reg. No:.....

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2024

BCS6B13–Mobile Operating System

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks : 80

PART A
Answer all questions

1 What is an emulator?

2 How does SDK used in the development of android projects?

3 What is DVM?

4 What is the use of manifest files in android?

5 Mention an example for a string-resource file.

6 What is plural?

7 What is the use of findViewById in android?

8 How ACTION_PICK is used with intent?

9 Figure out AdapterView class hierarchy.

10 Can a TextView receive typed input from a user?

11 What is alert dialog in android?

12 Compare fragment and activity.

13 What are shared preferences in android?

14 What is the use of a broadcast receiver in android?

15 What is native preference control?

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

PART B
Answer all questions

16 Differentiate between View and View Group in Android.

17 Explain about android software stack structure.

18 Explain about colour and dimension resources.

19 Distinguish between implicit and explicit intents.

20 Write notes on: (a) Grid view (b) List view

21 Draw a diagram for the lifecycle of a fragment.

22 With an example code snippet, explain toast.

23 Explain about content providers.

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

PART C
Answer any two questions

24 Summarize android activity lifecycle.

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

26. What is service in android? Explain the life cycle of service.

27. Discuss about database manipulation in android using SQLLite.

(2 x 10 = 20 marks)

29

1B6A24281 (Pages :2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2024

BCS6B14 – System Software

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A: Answer *all* questions (2 Mark Each)

1. Define system software.
2. Explain the role of system software in computer systems.
3. Differentiate Compiler and Interpreter.
4. Define loading and linking in system software.
5. Briefly explain the function of compilers.
6. What is LEX in system software?
7. Define YAAC in system software.
8. Differentiate between system software and application software.
9. What is the purpose of an assembler?
10. Explain the concept of modules in system software.
11. Give examples of popular system software tools used for lexical and syntax analysers.
12. How does an operating system interact with system software components?

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

PART B:Answer *all* questions (5 Marks Each)

13. Differentiate between static and dynamic linking.
14. Define lexical analysis and its significance in compiler design.
15. What is the role of a loader in system software execution?
16. Explain the process of loading and linking, including the steps involved and their significance in program execution.
17. How does LEX facilitate lexical analysis in system software development? Provide examples.
18. Define modular programming and its advantages in system software development.
19. Explore the advancements in compiler technology over the years.

(7x5 marks – 35 marks, Maximum ceiling 30 marks)

PART C: Answer *any one* question (10 Marks)

20. Evaluate the advantages and disadvantages of using macros in system software development, providing insights into best practices.

21. Critically assess the challenges associated with loading and linking in large-scale system software projects and propose strategies to mitigate them.

(1 x 10 = 10 marks)

30

1B6A24282 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2024

BCS6F01 – Cloud Computing

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A
Answer all questions

1. Elaborate Cloud Computing.
2. Differentiate Distributed and Cloud Computing.
3. Explain briefly the concept of Open Vz.
4. Briefly discuss virtual machines.
5. Elaborate on Hypervisors.
6. What is FOSS Cloud?
7. Explain the term Cloud orchestration.
8. Discuss briefly the concept of resource provisioning.
9. Describe the concept of a twister.
10. Differentiate parallel and distributed programming
11. Explain briefly the concept of security in the cloud.
12. Discuss Brocker Cloud Storage.

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

PART-B
Answer all questions

13. Enumerate and explain the major characteristics of Cloud Computing.
14. Enumerate and explain various types of virtualizations.
15. Explain Xen architecture in detail.
16. Elaborate on the OpenStack architecture with a block diagram.
17. Elaborate on the MapReduce framework.
18. With a neat block diagram explain the Hadoop architectural components.
19. Elaborate on various Cloud computing Security Controls.

(7x5 marks – 35 marks, Maximum ceiling 30 marks)

PART-C
Answer any one question

20. a) Elaborate on various cloud deployment models (4 marks)

    b) Define the term Cloud Infrastructure. (2 marks)

    c) Discuss the major benefits of cloud security. (4 marks)

21. a) Define SaaS (Software as a Service) (2 marks)

    b) Define Full virtualization. (2 marks)

    c) Explain the Eucalyptus Cloud environment. (4 marks)

    d) Discuss any two methods for achieving fault tolerance in HDFS (2 marks)

(1 x10 marks – 10 marks)