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1B6A22029

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2022

BCS6B12 – Computer Graphics

(2019 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART A

Answer all questions

1 Define aspect ratio.

2 What is shadow mask method?

3 Draw the architecture of a simple random scan system.

4 What is eight-way symmetry in a circle?

5 What are three major adverse sides of scan conversion?

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

7 Define scaling.

8 Define Translation.

9 Find the matrix that represents rotation of an object by 30° about the origin.

10 Draw the two dimensional viewing –transformation pipeline.

11 What is workstation transformation?

12 What is a line clipping procedure?

13 What is colour gamut?

14 Define a) Hue b)Luminance.

15 What is GIMP.

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

PART B
Answer all questions

16 Explain raster-scan system with a diagram

17 Illustrate DDA algorithm

18 Write Scan line Polygon filling algorithm

19 What is homogeneous coordinate system? Explain. Give matrix representations of translation, scaling and rotation.

20 Explain window to viewport transformation.

21 Illustrate Cohen Sutherland line clipping algorithm.

22 Write a note on RGB colour model.

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

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

PART C
Answer any two questions

24 a)Explain major applications of Computer Graphics.

b)Explain working of LCDs and LEDs.

25 Use Bresenham's algorithm to draw a line with end point (20,10) and (27,16).

26 Explain Reflection and Shearing transformations in details with examples.

27 Illustrate Sutherland - Hodgman polygon clipping algorithm.

(2 x 10 = 20)

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2022

BCS6B13 – Mobile Operating System

(2019 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART A
Answer all questions

1 What is SDK?

2 How AVD is 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 Plurals?

7 What do you mean by R.java?

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 Toast in Android?

12 How is a Fragment different from an Activity?

13 What are Shared Preferences in Android?

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

15 What is a content provider?

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

PART B

Answer all questions

16 Differentiate between View and ViewGroup in Android.

17 Explain the Android Software Stack Structure.

18 How does Explicit Intent differ from Implicit Intent?

19 Suppose that there are two activities in an application named First Activity and Second Activity. You want to send a student roll number from First Activity to Second Activity. What code will you write? Suppose that roll number is 1. Write the code to get the data in second Activity.

20 Write notes on: (a) map view control (b) spinner component

21 Draw a diagram for the lifecycle of a Fragment.

22 What are the different ways to find an existing fragment running in your application?

23 Explain about Preference Layout in XML.

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

PART C

Answer any two questions

24 Which are the life cycle methods of an activity? Explain.

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 Write an android program for the scenario given below :

Scenario: Need to create an application, which will create a SQLite database called "HRMS" and need to insert the values EMP001, "Minnah", 52000 for the fields SerialNo, Name and Salary into the table EmpDetails.

(2 x 10 = 20 marks)

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Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2022

BCS6B14– System Software

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A
Answer all questions

1. Distinguish between an assembler and a compiler.
2. What are the different types of compilers?
3. 'System Software is machine dependent'. Justify the statement.
4. What is Lex?
5. What is YACC?
6. Explain simple bootstrap loader.
7. What is Dynamic Linking Explain.
8. What is a parser?
9. Differentiate between linking loader and linkage editor.
10. List any 4 system softwares.
11. Write notes on conditional macro expansion.
12. Differentiate between a macro and a subroutine.

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

PART B
Answer all questions

13. Explain the format of Define and Refer Records. What are their uses?
14. Give the algorithm for pass 2 of a linking loader.
15. Explain program relocation with examples.
16. Is it possible to use labels within the macro body? Explain your answer with the help of examples. Also illustrate a possible solution for the same.
17. What do you mean by recursive macro expansion? What are the possible problems associated with it?
18. List and explain the different debugging techniques.
19. Explain the role of the parser in the compilation process.

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

PART C

Answer any one question

20. What is a multi pass assembler? With the help of an example explain a situation where we would need such an assembler.

21. What are the uses of OPTAB and SYMTAB during the assembling process? Specify the uses of each during pass 1 and pass2 of a two pass assembler.

(1 x 10 = 10)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Computer Science Degree Examination, April 2022

BCS6F01– Cloud Computing

(2019 Admission onwards)

Time: 2 hours Max. Marks : 60

PART A

Answer all questions

1. Define Cloud Computing.
2. Give any four characteristics of SaaS (Software as a Service).
3. What are Structured and Unstructured Overlays?
4. Define Virtualization. Discuss its role.
5. What are Hypervisors? Discuss its use.
6. Discuss Linux KVM.
7. What is Open Stack? What are its uses?
8. Write a short note on Eucalyptus in FOSS software environment.
9. What is Message Passing Interface?
10. What is Map Reduce?
11. What is Qubes OS?
12. Discuss Security Governance in Cloud Security.

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

PART B

Answer all questions

13. Explain various service models in cloud computing.
14. Explain NIST Cloud computing Architecture with a neat diagram.
15. Explain various types of virtualization.
16. Explain Para-virtualization architecture with a block diagram.
17. Elucidate the Open Nebula architecture and its components.
18. What is Hadoop Distributed File System? Describe its architecture.
19. Explain Data Security in Cloud Security.

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

PART C

Answer any one question

20. Illustrate various levels of virtualization Implementations.

21. Explain various Deployment models for cloud computing.

(1 x 10 = 10 Marks)