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1B4A23165 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

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

BCS4A13 – Objected Oriented Concepts through Python

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks: 80

Note: You can answer all the questions in Sections A&B. But there shall be Ceiling in these sections

PART -A
Answer all questions.
Each question carries Two mark.
Ceiling -25 Marks

1. Define the terms object and class.
2. Name any two object-oriented Programming languages.
3. What is the purpose of eval function in Python?
4. Explain about comment statements in Python.
5. Write syntax of if..else statement in Python.
6. What is the difference between break and continue statement in Python.
7. What do you mean by recursion?
8. Explain any two time handling functions in Python?
9. Write syntax to define a class in Python.
10. Write a python program to extract last 2 characters of string "hello" using slicing operator.
11. What do you mean by polymorphism?
12. Write a statement to accept user input in Python.
13. Write a Python program to check whether a number is palindrome or not.
14. What is the purpose of default parameter?
15. Write functions to create a dictionary and to print keys and values.

PART-B

Answer all questions.
Each question carries Five mark.
Ceiling -35 Marks

16. Write notes on advantages of OOP.
17. Explain operator precedence in Python.
18. Write short note on features of Python programming language.
19. Compare various looping statements in Python.
20. Write a python program to create a list and traverse each item in it.
21. Write a python program to define a function that performs calculation of area of a circle and return area.
22. Compare list and tuple in python.
23. Explain the terms encapsulation and abstraction.

PART-C

Answer any two questions.
Each question carries 10 mark.

24. Explain various control statements in Python.
25. Explain dictionary and set data containers.
26. Explain various parameter passing mechanism in Python with suitable examples.
27. Explain various operators in Python

2 ×10=20 marks

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Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

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

BCS4A14 – Principles of Software Engineering

(2019 Admission onwards)

Time: 2 ½ hours Max. Marks: 80

Note: You can answer all the questions in Section A&B. But there shall be a Ceiling in each section.

PART-A
Answer *all* questions.
Each question carries Two marks.
Ceiling -25 Marks

1. Define Software Engineering. Justify its importance in Software Development.
2. List out any four major characteristics of Software Engineering.
3. Discuss the task sets in the framework activities of Software Engineering.
4. Define Software Requirement Specification.
5. Describe Non-functional Requirements. Give one example
6. Write a note on Requirement Specification.
7. Define the term Software Design.
8. Define the Class Diagram with an example
9. Discuss Pipe and Filter architectural design.
10. Write a note on NULL Dereferencing.
11. Describe Structured Programming.
12. Elaborate on Black box Testing
13. Define Software Maintenance.
14. Write a note on the Reverse Engineering process in Software Engineering.
15. Describe the Version Control process.

PART -B

Answer *all* questions.
Each question carries Five marks.
Ceiling -35 Marks

16. Explain Component-Based Development.
17. Illustrate any two Evolutionary Process Models.
18. Dissect the steps involved in Requirement Engineering Process.
19. Recognize various Design Principles.
20. Give a detailed account of Web Application Development.
21. Elaborate on various Testing Strategies.
22. Explain the Software Change Management Process.
23. Distinguish Re-Engineering and Forward Engineering.

PART - C

Answer any *two* questions.
Each question carries Ten marks.

24. a) List out the characteristics of the Waterfall model. (3)
    b) Enumerate any four techniques for requirement validation. (4)
    c) List out any three techniques for testing non-functional requirements. (3)
25. a) Briefly describe RAD Model. (3)
    b) Elucidate the characteristics of requirements. (4)
    c) Write a note on User Interface Design. (3)
26. a) Define the Requirement Elicitation Process. Justify its impotence. (3)
    b) List out any three methods for Black box testing. (3)
    c) Discuss the Change control process (4)
27. a) Write a note on Object Oriented Design. (3)
    b) Enumerate various approaches for Structural Testing in White box Testing (5)
    c) Justify the importance of Change Management. (2)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

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

BCS4B06 – Fundamentals of Database Management Systems & RDBMS

(2019 Admission onwards)

Time: 2 hours

Max. Marks: 60

Note: You can answer all questions in SectionA& B. But there shall be Ceiling in each Section.

PART – A
Answer *all* questions
Each question carries Two marks.
Ceiling - 20 Marks

1. Define Database Management Systems. List out its uses.
2. List out the disadvantages of File System.
3. Discuss Database Schemas with suitable example.
4. Explain the concept of Extended Entity Relationship.
5. Compare Relational Calculus and Domain Calculus.
6. Briefly describe tuples and its significance in DBMS.
7. What are functional dependencies? Give Suitable example.
8. Write a note on Join dependencies.
9. Give an account of Views with example.
10. Discuss the concept of constraints in DBMS with examples.
11. Write a note on ACID properties.
12. Briefly describe Transaction Management and Concurrency Control in DBMS.

PART – B
Answer *all* questions
Each question carries Five marks.
Ceiling -30 Marks

13. Elaborate on Data Models and various types of Data Models.
14. Illustrate various types of Keys used in relational data models with its role.
15. What are Anomalies in Data base system ? Enlist different types of anomalies that may occur.
16. Explain CREATE and ALTER commands in SQL and compare its operations when used.
17. Give a detailed account of Lost Update Problems in DBMS transactions.
18. Explain two phase locking protocol
19. Elaborate on Multivalued dependencies discuss how it can be resolved.

PART – C

Answer *one* question

Each question carries Ten marks.

20. Write elaborate notes on

a. Data Languages and Interfaces (4)

b. Different types of attributes. (6)

c. Boyce Codd Normal form and Third Normal Form (3)

d. Grouping Data from Tables in RDBMS (4)

e. The need of concurrency control in DBMS (3)

21. Discuss

a. Three schema architecture of DBMS (4)

b. Various types of relations and integrity rules in DBMS (6)

c. Normalization and its need in database design. (3)

d. Different types of Joins in DBMS. (4)

e. Save points, commit and rollback (3)

(1 x 10 = 10 Mark

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

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

BCS4B06 – Fundamentals of Database Management Systems & RDBMS

(2019 Admission onwards)

Time: 2 hours

Max. Marks: 60

Note: You can answer all questions in SectionA& B. But there shall be Ceiling in each Section.

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Answer *all* questions
Each question carries Two marks.
Ceiling - 20 Marks

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19. Elaborate on Multivalued dependencies discuss how it can be resolved.

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(1 x 10 = 10 Mark