19COA401 Reg No : .....

CHOICE BASED CREDIT SYSTEM

BCA FOURTH SEMESTER DEGREE EXAMINATION AUGUST 2022

COMPUTER APPLICATIONS

Advanced Java Theory

**Duration:3 Hours** **Max Marks:80**

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**I. Answer any FIVE of the following :** **(5×2= 10 Marks)**

1. Enterprise applications are platform independent. Justify.
2. Write any two advantages of 2-tier architecture.
3. List any four methods of ResultSetMetaData interface.
4. What is the use of executeQuery() method?
5. What is a Java Servlet? Write any one benefit of using servlet over CGI.
6. Write the usage of scriplet tag in JSP.

**II. Answer any FIVE of the following :** **(5×6= 30 Marks)**

7. How does J2EE architecture work? Explain with the help of a neat diagram.
8. Write a note on a) JDBC b) Java Message Service c) EJB
9. Explain the components of JDBC.
10. Differentiate JDBC Type-1 and Type-2 Driver.
11. Explain with syntax and example a) while loop b) for loop in JSP .
12. Explain any six HTTP response headers.

**III. Answer any FOUR of the following :** **(4×10= 40 Marks)**

13. Explain any three J2EE component technologies and any two communication technologies.
14. Write a servlet program to insert employeeid, name and basicpay of an employee into the database using PreparedStatement interface. Use HTML form to take user input.

15. Explain any five methods of Connection interface with an example each.

16. Explain the following methods with an example each.
    a) getParameterName()  b) getParameterNames()  c) getParameterValues()

17. Write a servlet program to add and retrieve session variable from HTML form. Input CollegeName and Class using HTML form.

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19C0A402 Reg No : .....

CHOICE BASED CREDIT SYSTEM

BCA FOURTH SEMESTER DEGREE EXAMINATION AUGUST 2022

COMPUTER APPLICATIONS

Web Programming using PHP Theory

Duration:3 Hours Max Marks:80

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**I. Answer any FIVE of the following : (5×2= 10 Marks)**

1. What is PHP?
2. What are PHP constants? Give example.
3. What is the difference between a while loop and a do while loop?
4. What are array iterators?
5. How is it possible to maintain a semi permanent record of the errors that were generated by an application?
6. List the commands MySQL offers to control a user's privilege level to a database system.

**II. Answer any FIVE of the following : (5×6= 30 Marks)**

7. How can you print the value of a variable using the echo statement in PHP? State the syntax and give an example.
8. Explain four important advantages of packaging your code into functions.
9. Explain the if-elseif-else statement with syntax and example.
10. Explain the different categories of SQL statements with examples.
11. Explain the benefits of using an Exception model in PHP.
12. How do you register a session variable? How do you access its value on a different page?

**III. Answer any FOUR of the following : (4×10= 40 Marks)**

13. Explain with the help of an example how to handle form inputs using PHP code.
14. Explain any ten string functions with syntax and example.

15. a) Explain the different script level errors? Give example.
    b) Explain the different categories of PHP error.

16. A table songs in the database music contains the following fields song_id, song_title, fk_song_artist, fk_song_rating. Write PHP script to create the table, add records, search for records matching specific criteria, modify and remove records.

17. Explain the following PHP Security Directives:
    i) disable_functions ii) session.name iii) allow_url_fopen iv) expose_php
    v) error_reporting vi) log_errors vii) disable_classes viii) max_input_time
    ix) open_basedir x) display_errors

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19COA403 Reg No : .....

CHOICE BASED CREDIT SYSTEM

BCA FOURTH SEMESTER DEGREE EXAMINATION AUGUST 2022

COMPUTER APPLICATIONS

Software Engineering

Duration:3 Hours Max Marks:80

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**I. Answer any FIVE of the following : (5×2= 10 Marks)**

1. Differentiate Industrial strength software and students strength software.
2. What do you mean by Metrics? List the two types of metrics.
3. What is the use of a DFD?
4. What is a module?
5. Differentiate a fault and a failure.
6. What is structural testing?

**II. Answer any FIVE of the following : (5×6= 30 Marks)**

7. Explain the inspection process.
8. What is an algorithm? Explain the steps to develop an algorithm.
9. Explain Equivalence Class Partitioning.
10. Explain the CM mechanism.
11. Write a note on design walkthroughs.
12. What do you understand by predictability of a software process? Explain.

**III. Answer any FOUR of the following : (4×10= 40 Marks)**

13. a) With a neat diagram explain the Spiral Model.
    b) What are the advantages and disadvantages of the Timeboxing model.

14. a) With a neat diagram explain the requirement process in an SRS.
    b) A high-quality SRS is a prerequisite to high quality software. Explain.

15. a) Explain Unit Testing with respect to code verification.
    b) Explain any two good programming practices.

16. What is a structure chart? Explain with an example.

17. Explain any five common coding errors.

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19COA601 Reg No : .....

CHOICE BASED CREDIT SYSTEM

BCA SIXTH SEMESTER DEGREE EXAMINATION AUGUST 2022

COMPUTER APPLICATIONS

Computer Graphics and Multimedia

**Duration:3 Hours** **Max Marks:80**

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**I. Answer any FIVE of the following :** **(5×2= 10 Marks)**

1. State any two advantages of Interactive Graphics.
2. List any two techniques for generating characters.
3. What is a convex polygon? Give an example.
4. What is Y Shear? Give an example.
5. Give any two features of CD-DA technology.
6. List the steps of data compression.

**II. Answer any FIVE of the following :** **(5×6= 30 Marks)**

7. With the help of a neat block diagram, explain the conceptual framework for interactive graphics.
8. Derive Bresenham's midpoint line drawing algorithm.
9. Write the 2D matrix representations for translation and scaling. Give a diagramatic example each .
10. Explain flood fill algorithm.
11. What is a data stream? Explain the various transmission modes of data streams.
12. A point(4,3) is rotated counterclockwise by an angle of 45 degree. Find the rotation matrix and the resultant point.

**III. Answer any FOUR of the following :** **(4×10= 40 Marks)**

13. Derive and explain the midpoint ellipse drawing algorithm.

14. (a) Explain the sequence of transformations for rotating an object about an arbitrary point in 2D.
    (b) Show that two successive rotations are additive.

15. List and explain the commonly used components of a MIDI synthesizer.

16. (a) Write a C program to fill a rectangle filling using a user defined function.
    (b) Write a C program to rotate an object about the origin.

17. (a) Consider the line from (0,0) to (4,6). Use simple DDA algorithm to rasterize this line.
    (b) Write a note on polygon clipping.

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