

**CHOICE BASED CREDIT SYSTEM****BCA THIRD SEMESTER DEGREE EXAMINATION FEBRUARY 2022****COMPUTER APPLICATIONS****Object Oriented Programming Concepts & Programming using Java Theory****Duration:3 Hours****Max Marks:80****I. Answer any FIVE of the following :****(5×2= 10 Marks)**

1. Name any four backslash character constants.
2. How is it possible to skip a part of a loop in java?
3. Why java is a true object oriented language?
4. List the four basic parts of a method declaration.
5. Give an example to declare and create a one dimensional array.
6. How many arguments can be passed to an applet using tags?

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

7. How do objects respond to messages?
8. Explain the different types of arithmetic operators and relational operators in java.
9. What is inheritance? Explain.
10. What are packages? State the benefits of organising classes into packages.
11. Write a program that accepts a shopping list of five items from the command line and stores them in a vector.
12. Explain the following thread methods:  
i) notify()    ii) resume()    iii) wait()    iv) start()    v) run()    vi) suspend()

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

13. Explain: a) General structure of a java program b) Java statements
14. What are decision making statements in java? Explain any two with syntax and example.
15. Explain the following inheritance: a) Single inheritance b) Multilevel inheritance
16. Write a note on: a) Overriding methods    b) Final variables, methods and classes
17. How can we throw our own exceptions? Explain with an example.

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**CHOICE BASED CREDIT SYSTEM****BCA THIRD SEMESTER DEGREE EXAMINATION FEBRUARY 2022****COMPUTER APPLICATIONS****Internet Programming Theory****Duration:3 Hours****Max Marks:80****I. Answer any FIVE of the following : (5×2= 10 Marks)**

1. Mention the rules for VBScript variable names.
2. List javascript assignment operators.
3. List INSTR function in VBScript.
4. What is element id?
5. How do you define text size for an HTML element?
6. What is XML? Expand.

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

7. Explain HTML FRAME.
8. In VBScript, explain DO WHILE, DO ....UNTIL loops .
9. What are color and background attributes in style sheets? Explain any four with example.
10. With an example write a note on external style sheet.
11. What is Javascript? Explain the features of Javascript.
12. Explain occurrence indicators in XML.

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

13. Explain IF, IF...ELSE, IF ...ELSEIF statements in VBScript.
14. Explain various HTML FORM controls.
15. What are sub procedures in VBScript? How do you define a sub procedure? Explain with an example.
16. Write a note on WWW, Telnet, FTP.
17. a) Explain tag with various attributes.  
b) Explain how you could include STYLE attribute in various Tags in a web page.

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**CHOICE BASED CREDIT SYSTEM**  
**BCA THIRD SEMESTER DEGREE EXAMINATION FEBRUARY 2022**  
**COMPUTER APPLICATIONS**  
**Operating Systems**

Duration: 3 Hours

Max Marks: 80

**I. Answer any FIVE of the following :**

**(5×2= 10 Marks)**

1. Write any two services of an operating system.
2. Define a) Response Time b) Waiting Time
3. What is swapping?
4. Write the definition for wait and signal operation.
5. Write any two operations performed on a file.
6. What is enhanced second-chance algorithm?

**II. Answer any FIVE of the following :**

**(5×6= 30 Marks)**

7. Explain process control block with a neat diagram.
8. Explain the three types of schedulers.
9. Explain deadlock recovery.
10. Explain any three methods to prevent deadlock in a system.
11. Consider the following page reference string 1,2,3,4,5,3,4,1,6,7,8,7,8,9,7,8,9,5,4 Find the page faults that occur if we use a) FIFO b) Optimal page replacement algorithms using 4 frames.
12. Write a note on a) Virtual memory b) Demand paging

**III. Answer any FOUR of the following :**

**(4×10= 40 Marks)**

13. Draw Gantt chart and calculate the Average Waiting Time for the following 4 processes using:  
a) First Come First Serve scheduling algorithm.  
b) Priority scheduling algorithm.  
c) Round Robin scheduling algorithm (Time quantum = 3ms) Process P1 P2 P3 P4 Burst Time 5 3 6 4 Priority 3 1 2 4
14. a) Explain the benefits of a multithreaded process.  
b) Explain user thread and kernel thread.
15. a) Explain resource allocation graph with deadlock.  
b) Explain the necessary conditions for a deadlock to occur in the system.
16. a) Explain paging hardware TLB with a neat diagram.  
b) Explain segmentation with a neat diagram.
17. a) Explain indexed allocation with a neat diagram.  
b) Write a note on free space management.

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**CHOICE BASED CREDIT SYSTEM****BCA FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022****COMPUTER APPLICATIONS****Python Programming Theory****Duration:3 Hours****Max Marks:80****I. Answer any FIVE of the following :****(5×2= 10 Marks)**

1. Write a note on python indentation.
2. What is frozen binaries in Python?
3. Write the loop through a tuple.
4. What is clear() method in lists?
5. Write how to prepare a cursor object using cursor() method.
6. What is polymorphism?

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

7. a) Explain the remove () method in a set in python.  
b) Explain the pop() method in a set in Python.
8. With a neat diagram for Python architecture Vs Java architecture.
9. How do you rename a module in python? Explain with example.
10. a) What are the advantages of functions?  
b) What is the difference between a function & a method.
11. Explain the strftime() method.
12. Explain with example self parameter.

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

13. a) Explain WHILE loop in Python with an example.  
b) Explain BREAK statement in Python with example.
14. Explain the relational and logical operators in Python.
15. a) Mention the basic operations supported by an array in Python.  
b) Explain how to access array elements.  
c) Explain Insert operation in an array.
16. Explain with example any 5 string methods in python.
17. Explain with example deleting rows from a table through Python.

**CHOICE BASED CREDIT SYSTEM**  
**BCA FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022**  
**COMPUTER APPLICATIONS**

**Web Programming with ASP.Net Theory**

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

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

1. List the methods used to store state information at server end.
2. What is code inline model?
3. Write the physical components of PasswordRecovery control.
4. Differentiate DropDownList server control and ListBox server control.
5. Write any two public properties of DetailsView control.
6. What is DeclarativeCatalogPart?

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

7. What are the different application location options available in ASP.NET?
8. What is developer productivity? Explain the aspects that contribute towards attaining developer productivity.
9. What is a Calendar server control? Explain any four date formats of Calendar server control.
10. Write the steps involved in using RequiredFieldvalidator control.
11. Explain i) AppearanceEditorPart ii) EditorZone iii) LayoutEditorPart
12. Explain Disconnected Data Architecture in .NET framework.

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

13. Differentiate postback and cross page posting with the help of an example.
14. a) Explain any five built-in directories of ASP.NET web application.  
b) Explain any five methods corresponding to the events that occur in global.asax file.
15. Write a note on a) Label server control b) TextBox server control
16. Explain a) SiteMapPath control b) Menu control
17. Explain with any three properties  
i) SqlDataSource control ii) ObjectDataSource control

**CHOICE BASED CREDIT SYSTEM**  
**BCA FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022**  
**COMPUTER APPLICATIONS**  
**Microprocessor Programming Theory**

Duration:3 Hours

Max Marks:80

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

1. Give two features of Intel 8008.
2. When is the Parity Flag set to 1?
3. Why is STRUCT used? How can you access Structure variable field?
4. What is the use of the directive Public? Give its general format.
5. List the shift instructions of 8086.
6. Write the functions of REPE and REPNE.

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

7. Write a note on Memory Addressing modes.
8. Write a note on ASCII Data and BCD Data.
9. With the syntax and example, explain the instruction i) DIV ii) MUL
10. Compare the following instructions: (i) IN and OUT (ii) LAHF and SAHF
11. Explain: (i) DAA (ii) DAS
12. What is the use of an Interrupt table? Explain.

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

13. Write a note on:  
(i) Source Index Registers (ii) Pointer Registers (iii) Stack Segment Register
14. Differentiate between (i) Memory mapped I/O and I/O mapped I/O.  
(ii) Zero operand instruction and Two operand instruction
15. Explain procedure definition with an example. How can you pass parameters in a procedure? Explain.
16. (a) Write an Assembly Language Program to find the largest and smallest in an array.  
(b) Write an Assembly Language Program to search an accepted character in an accepted string.
17. (a) Explain LOOP instruction with an example.  
(b) Explain the following branch instructions: i) JA/JNBE ii) JE

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## CHOICE BASED CREDIT SYSTEM

BCA FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022

## COMPUTER APPLICATIONS

## Cloud Computing

Duration:3 Hours

Max Marks:80

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

1. What do you mean by PaaS?
2. Give any four laws of behavioral cloudonomics.
3. Describe Google cloud.
4. What is emulation?
5. What are virtual storage containers?
6. What are the protocols supported by cloud APIs?

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

7. Explain IaaS workload.
8. Determine measuring of cloud computing costs.
9. Describe the lifecycle management of the cloud.
10. Write a note on a) Storage location and tenancy b) Auditing and compliance
11. Write a note on SOA Communications.
12. List and explain the features of ESB.

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

13. Explain the cloud computing stack with a neat diagram.
14. Explain Software as a service with its characteristics.
15. Explain CSA Cloud Reference Model with security boundaries with a neat diagram.
16. a) Explain capacity planning with iterative process steps.  
b) Write a note on baseline and metrics.
17. Write a note on a) Managed cloud storage b) Unmanaged cloud storage

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**CHOICE BASED CREDIT SYSTEM**  
**BCA FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022**  
**COMPUTER APPLICATIONS**  
**Data Mining**

**Duration:3 Hours****Max Marks:80****I. Answer any FIVE of the following :****(5×2= 10 Marks)**

1. What is OLAP?
2. List the two groups of metadata.
3. Why do we need Data Mining?
4. What is known as support based pruning?
5. How are the starting values in the k-means method selected?
6. What is text mining?

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

7. Write a note on Slice & dice operations.
8. What are the issues to be resolved in the successful implementation of an ETL system?
9. Explain the following preprocessing techniques i) Aggregation ii) Sampling
10. Explain Rule generation in Apriori Algorithm.
11. Write a note on web structure mining.
12. Outline the basic algorithm for density based clustering with the help of a figure.

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

13. a) Explain. List the benefits of an ODS to an enterprise.  
b) Explain the design and implementation of an ODS.
14. a) Explain the types and general characteristics of data sets.  
b) Explain any three types of record data.
15. Describe single line, complete link, centroid, average-link and Ward's minimum variance method.
16. Explain the different types of cluster analysis methods and discuss their features.
17. Explain divisive hierarchical method with the help of a figure.

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**CHOICE BASED CREDIT SYSTEM****B.C.A. FIFTH SEMESTER DEGREE EXAMINATION FEBRUARY 2022****COMPUTER APPLICATIONS****Artificial Intelligence****Duration:3 Hours****Max Marks:80****I. Answer any FIVE of the following : . (5×2= 10 Marks)**

1. What are the two different types of formulation? Define them.
2. When do we say that breadth-first search is complete?
3. List the logical connectives with its notation.
4. What is the advantage of alpha-beta pruning algorithm?
5. Define an atomic sentence.
6. Define mass noun and count noun.

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

7. Justify that A\* search is both optimal and complete.
8. Diagrammatically describe about learning agents.
9. Discuss about online search agents.
10. What is adversarial search in artificial intelligence?
11. Briefly explain about backward chaining.
12. Write a note on production systems.

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

13. Discuss about law of thought approach and rational agent approach.
14. Discuss about the concept of rationality.
15. Explain simulated annealing with pseudocode.
16. Differentiate representational frame problem and inferential frame problem.
17. Discuss about choosing attribute tests for decision tree.

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