Enrollment No……

Bachelor of Computer Application
Fifth Semester Main Examination, Dec-2020
Introduction to JAVA [BCA501T]

Time: 3:00 Hrs **Max Marks 50**

Note : Attempt all questions. All questions carry equal marks.

Q.1 Explain java program structure. Explain access modifiers used in java.

OR

Define constructors with its types.

Q.2 What is JAVA virtual machine? Explain its concept.

OR

Explain the concept of class, object and methods.

Q.3 Explain inheritance with its types and diagram.

OR

What is file handling? How do you read and write to a text file in JAVA? Explain with example.

Q.4 Write a JAVA program to calculate the factorial of a given number.

OR

What is thread? How do you create thread in a JAVA program? Explain with example.

Q.5 Explain data types used in JAVA. Explain briefly with its classification.

OR

Explain the concept of method overloading and method overriding with example.

Enrollment No……

Bachelor of Computer Application
Fifth Semester Main Examination, Dec-2020
Computer Organization and Architecture [BCA502T]

Time: 3:00 Hrs **Max Marks 40**

Note : Attempt all questions. All questions carry equal marks.

Q.1 Differentiate between Computer Architecture and Computer Organization with example.

OR

Explain brief history of computer and its designing. Write short note on generation of computers.

Q.2 What is cache memory? Explain basic design of cache. Illustrate various mapping of procedures in the organization of cache memory.

OR

Explain RAID. Explain how redundancy is achieved in a RAID system?

Q.3 What is the difference between assembly language, machine language and high level language?

OR

What is pipelining? Write advantages and disadvantages of pipelining. Also define instruction pipelining.

Q.4 Define Microinstruction. Describe briefly execution of microinstruction and microinstruction sequencing.

OR

Explain hard wired control in detail. Explain how micro programmed control is different from hard wired control?

Q.5 Explain MESI protocol in brief. Also define MESI protocol vector computation.

OR

Define following –

i) DMA Transfer
ii) Memory Mapped I/O
iii) Array Processor, Multi-Processor, Parallel Processor

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Bachelor of Computer Application

Fifth Semester Main Examination, Dec-2020

Software Engineering [BCA503T]

Time: 3:00 Hrs **Max Marks 40**

Note : Attempt all questions. All questions carry equal marks.

Q.1 What is software engineering? Explain its principles.

OR

Write down the roles and responsibilities of a software manager.

Q.2 Explain (any three)

(i) Unit testing
(ii) System testing
(iii) Integration testing
(iv) Validation testing

Q.3 Explain verification and validation techniques.

OR

How we can measure reliability of software and also explain quality management concept.

Q.4 Explain Black Box testing and White Box testing.

OR

Write down the various stages of software development life cycle.

Q.5 Write down the major terms should be considered at the time of hardware selection and software selection for software design.

OR

Write a brief note on software design methodologies.

Enrollment No……

Bachelor of Computer Application
Fifth Semester Main Examination, Dec-2020
Discrete Mathematics & Linear Algebra [BCA504T]

Time: 3:00 Hrs **Max Marks 40**

Note : Attempt all questions. All questions carry equal marks.
Attempt any two parts of each question.

Q.1 (a) Show that $(p \wedge q) \rightarrow (p \vee q)$ is tautology.

(b) In a Boolean Algebra prove that
$a \cdot b + b \cdot c + c \cdot a = (a + b) \cdot (b + c) \cdot (c + a)$.

(c) Prove that the distributive law
$x(y + z) - xy + xz$ is valid

Q.2 (a) Change the following function into disjunctive normal form.
$f(x, y, z) = (x + y) \cdot (x + z') + (y + z')$

(b) Construct circuits that produce the following output
$(x + y) \cdot x'$.

(c) Draw the Binomial net for the following
$x'yz + xy'z + xyz' + x'y'z'$

Q.3 (a) State and prove Lagrange's theorem.

(b) Define a normal subgroup of a group. Give an example.

(c) Define Cartesian product of two sets.
Prove that $(A - B) \times C = (A \times C) - (B \times C)$

Q.4 (a) Show that the union of two subspaces is also a subspace if and only if one is contained in the other.

(b) Define Kernel of homomorphism. The Kernel of homomorphism is subspace V(F).

(c) Prove that the set of all ordered n-tuples over a field forms a vector space with respect to addition of n tuples and multiplication of n-tuples by an element of the field.

Q.5 (a) State and prove Caley-Hamilton theorem

(b) State and prove Rank-Nullity theorem.

(c) Prove that the product of eigenvalues of a square matrix is equal to the determinant of the matrix.

Enrollment No……

Bachelor of Computer Application
Fifth Semester Main Examination, Dec-2020
Web Designing & Web Technology [BCA505T]

Time: 3:00 Hrs **Max Marks 40**

Note : Attempt all questions. All questions carry equal marks.

Q.1 Explain - (i) HTTP
(ii) WWW

OR

Write down the differences between HTML and DHTML.

Q.2 Write the syntax of XML. Also describe its attributes.

OR

Write down the basic tags of HTML. Explain any ten tags with their syntax.

Q.3 (a) Explain in detail the process of website hosting.

OR

What do you understand by event handling? Explain the event handling techniques.

Q.4 Describe all tags and attributes used to embed image in document.

OR

Write short note on java script. Also explain its operators.

Q.5 Describe array and embedded style sheet.

OR

(i) Explain any three table tag.
(ii) Write down the steps of website designing.

Enrollment No……

Bachelor of Computer Application
Fifth Semester Main Examination, Dec-2020
Entrepreneurship [BCA506T]

Time: 3:00 Hrs **Max Marks 20**

Note : Attempt all questions. All questions carry equal marks.

Q.1 Explain the concept of entrepreneurship. What are its characteristics and functions?

OR

Explain the different types of entry barriers.

Q.2 What are the factors to be considered while positioning the firm in the market?

OR

What factors are responsible for the growth of entrepreneurial ventures?

Q.3 What are the various sources of finance for entrepreneurs in India? Describe the features of these sources.

OR

What do you understand by Ancillary? How is it helpful in quality production and cost effectiveness?

Q.4 What type of feasibility proforma on cost of production and profitability is required for projects?

OR

Elaborate the methodology for a site location. Enumerate the various considerations under it.

Q.5 Write short note on -

(i) Working capital management

(ii) Break even point

OR

What are the major contents of project proposal? Explain in detail.