Bachelor of Computer Application

Fifth Semester Main Examination, December 2021

Software Engineering [BCA503T]

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

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

Q.1 (a) What is the system ? explain three basic constraints of a system and properties of a system
(b) Describe various computer components X computer functions ?
(c) Write notes on fact finding techniques ?

Q.2 (a) Give notes on
(i) Project selection

(ii) System requirement

(b) What do you mean by logical and physical design?
(c) Explain software myths ?

Q.3 (a) Explain structured system analysis ?
(b) What is an ER-diagram ?
(c) Explain various types of maintenance ?

Q.4 (a) Define bugs. errors, faults and failures ?
(b) What is strategic test planning and approach to testing ?
(c) What do you mean by gray box testing ? .

Q.5 (a) What is a management information system ?
(b) What do you mean by business as a system ?
(c) What is integration testing ? Explain its various types ?

Enrollment No.....

Bachelor of Computer Application
Fifth Semester Main Examination, December 2021
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) Prove that the distributive law
$x(y+z) - xy + xz$ is valid

(b) State and prone demorgan's low for boolean algebra.

(c) Define logical equivalence and show that
$p \vee (p \wedge r) = (p \wedge r) \wedge (p \vee r)$is valid

Q.2 (a) Draw the Binomial net for the expression.
$x'yz + xy'z + xyz' + x'y'z'$

(b) Write the friction $xy' + xz)$ in conjunction normal form.

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

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

(b) Prove that $A \times (B \cup B) = (A \times B) \cup (A \times C)$

(c) show the necessary and sufficient condition for a non empty subset H of a group G to be a subgroup is react.
$A \in H, b \in H = ab^{-1} \in H$
Where b^{-1} is the inverse of b in G.

Q.4 (a) Define Kernel of homomorphism. The Kernel of homomorphism is subspace V(F).

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

(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) Find the eigenvalues & Eigen vectors of Metrix –

$$A = \begin{pmatrix} 1 & 2 & 2 \\ 0 & 2 & 1 \\ -1 & 2 & 2 \end{pmatrix}$$

(b) Find the rank of matrix –

$$A = \begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{pmatrix}$$

(c) State and prove Cayley - Hamilton theorem.

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Bachelor of Computer Application
Fifth Semester Main Examination, December-2021
Introduction to JAVA [BCA501T]

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

Note : Attempt any five questions. All questions carry equal marks.

Q.1 (a) Explain following.
(i) Constructors and it syntax (ii) Methods overloading
(b) Discuss various loop statements and branding statements available in Java? Show their syntax.

Q.2 (a) What is error and acption handling in Java? How would you handle the aception using try and catch.
(b) Create a data class in Java having day month and year data numbers create construtors for in to alize data mumbers functions for validating date getting values of data and displaying the data.

Q.3 (a) Describe the wrapper class with suitable example.
(b) Explain the anonymous array with example.

Q.4 (a) What is contrasts? Write the use of constructs also.
(b) Describe the finite method with example.

Q.5 (a) Write the programs to count the number of words in file.
(b) What string class objects are considered an imm table. Differentiate between length property and ungth () method with example.

Q.6 (a) Explain different access modifiers available in Java
(b) Explain the logical operator (&& and II) with example.

Q.7 (a) How multithreading is achieved in Java program. Discuss its advantages and Disadvantages.
(b) How a multifimimensional array is reprinted in Java? Write the program to vacate a 2*2 array.

Q.8 (a) Write a bide note on nested and inner class.
(b) What are iteration statements ? explain with example.

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Bachelor of Computer Application
Fifth Semester Main Examination, December-2021
Web Designing & Web Technology [BCA505T]

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

Note : Attempt any five questions.
All questions carry equal marks.

Q.1 (a) Explain - (i) HTTP (ii) WWW (iii) DNS with suitable example.
(b) What is selector class? Explain the preude class selector in CSS with example .

Q.2 (a) Explain the basic table tages with the different attributes.
(b) What are the different types of Java seripterrors? Explain with an example.

Q.3 (a) Differentiate XHTML and HTML.
(b) Explain uste several ways for positioning elements on the web pages.

Q.4 (a) What do you mean XML rampage? Explain in detail.
(b) Write a JavaScript cods which checke use contents entesed in a forms cut element. If the lekt entered is in che lower case convert to upper case.

Q.5 (a) Explain various Data types used in JavaScript.
(b) Write a JavaScript to find factorial of a numberl.

Q.6 (a) Explain various XML parses in detail.
(b) Explain the structure of Document object model in detail.

Q.7 (a) Explain the difference between external and internal DTD. Write a DTD for student information system including student name, enrolment number, date of birth, address etc.
(b) What is Web hosting? Explain different hosting types and components.

Q.8 (a) Explain the difference between frames and inflames? What are the benefits of using frames in a webpages.
(b) Write a program to accept a phone number from a user and gensate and alest ménage if it contains more then is digits.

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Bachelor of Computer Application
Fifth Semester Main Examination, December 2021
Entrepreneurship [BCA506T]

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

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

Q.1 Explain the types of entrepreneurs ?

OR

What are the characteristics & functions of entrepreneurs .

Q.2 Define the concept of entrepreneur with various factors?

OR

What factors are responsible for the growth of entrepreneurial virtual?

Q.3 Critically evaluate the role of institutional finance in entrepreneurship. .

OR

What do you understand by ancillary ? How is it helpful in quality production & cost effectiveness?

Q.4 What are the methods and procedure to expand the business ? Explain. ?

OR

Elaborate the methodology for a site location.

Q.5 What are the various sources of business idea on entrepreneurship ?

OR

Write a short note on working capital management. .

Enrollment No.....

Bachelor of Computer Application
Fifth Semester Main Examination, December-2021
Computer Organization and Architecture [BCA502T]

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

Note : Attempt any five questions. All questions carry equal marks.

Q.1 (a) Explain computer basic performance equation.
(b) Explain following with an example
(i) Three address instruction (ii) Two address instruction
(iii) One- address instruction.

Q.2 (a) Describe about virtual memory.
(b) Describe the principles of magnetic disk

Q.3 (a) What is mapping? Explain set associative cache mapping technques.
(b) Explain system software functions in computes.

Q.4 (a) What is a cache memory? Explain the various mapping techniques of cache memory.
(b) A computer employs RAM chips of 256x8 and ROM chips of 1024x8. The computer system needs 2k bytes of RAM, 4k bytes of ROM, and four interface units with each with four registers
A memory mopped I/configuration is used. The two highest order bits of the address bus are assigned 00 for 01 for ROM, 10 for interface registers
i) How many RAM & ROM chips are needed.
ii) Draw a memory address map for the system
iii) Give the address range in hekadunal for RAM, ROM and interface.

Q.5 (a) Explain two ways for establishing priority of interrupt by multiple derives
(b) What are various addressing models? Explain any five with help of suitable example.

Q.6 (a) Discuss a single transistor dynamic memory call.
(b) Explain interval organization of 16x8 memory chip.

Q.7 (a) What is assemble directive? Explain any three assemble directive
(b) Explain Bus structure.

Q.8 (a) Briefly explain any four non- volatile memory concepts.
(b) Briefly explain secondary storage drives.