Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN 2019

Bachelor in Computer Applications   **Full Marks: 60**
Course Title: Data Structures & Algorithms   **Pass Marks: 24**
Code No: CACS 201   **Time: 3 hours**
Semester: III

Center:	Symbol No:

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.   **[10×1 = 10]**

1. Circle (O) the correct answer.

    i)   What is the measurement for time complexity of an algorithm?

        a) Counting microseconds   b) Counting kilobytes of algorithms

        c) Counting number of key operations   d) Counting number of statements

    ii) Which of the following is the result of evaluation of 5 7 4 - * 8 4 / +?

        a) 5   b) 8   c) 10   d) 17

    iii) What is the recursive formula for post order traversal of binary tree?

        a) Left-Root-Right   b) Root-Left-Right

        c) Left-Right-Root   d) Right-Left-Root

    iv) What is the number of disk movement in TOH with 4 disks?

        a) 9   b) 14   c) 17   d) 15

    v)   What is the Big-Oh of best case complexity of insertion sort?

        a) $O(n)$ b) $O(nlogn)$ c) $O(1)$ d) $O(n^2)$

    vi) How does the rear index incremented in circular queue?

        a) front=(rear+1)%SIZE   b) rear=(rear+1)%SIZE

        c) rear=rear+1   d) rear=(rear-1)%SIZE

    vii) A variation of linked list in which none of the node contains NULL pointer is ……

        a) Singly   b) Multiple   c) Circular   d) Doubly

    viii) Which of the following data structure is used in depth first search of graph?

        a) Stack   b) Queue   c) Linked List   d) None of the above

ix) Which of the following is true for B-Tree of order M?

    a) Leaf nodes should be at different level

    b) All the key values within a node must be in descending order

    c) Every node has at least M children

    d) All non-leaf nodes with M-1 keys must have M number of children

x) Which of the following is not a hash function?

    a) Division remainder   b) Folding

    c) Chaining   d) Mid square

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Bachelor in Computer Applications   **Full Marks: 60**

Course Title: OOP in Java   **Pass Marks: 24**

Code No: CACS 204   **Time: 3 hours**

Semester: III

Centre: **Symbol No:**

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.   **[10×1 = 10]**

1. Circle (O) the correct answer.

   i) Which one of the following is not a valid java bitwise operator?

      a) >>   b) <<

      c) >>>   d) <<<

   ii) Which one of the following keyword is used to declare an exception?

      a) throws   b) throw

      c) try   d) catch

   iii) Which of these is an incorrect array declaration?

      a) int ary[] = new int[5];   b) int[] ary = new int[5];

      c) int ary = int[5] new;   d) int ary[]; ary = new int[5];

   iv) Which one of the following access specifier is appropriate for members of superclass to access only from subclass?
      a) private b) protected c) public d) default

   v) Which one of the following is not a collection class defined in java?

a) Linked List b) Hash Set c) Tree Set d) Graph Set

vi) Which one of the following inheritance is best implanted using interface in java?

a) single inheritance

b) multi-level inheritance

c) multiple inheritance

d) hierarchical inheritance

vii) Which one of the following method is called only once during the run time of your applet?

a) stop()

b) paint()

c) init()

d) start()

viii) Which of these method of class String is used to compare two String objects for their equality?

a) equals()

b) Equals()

c) is Equal()

d) Is Equal()

ix) What is the default value of priority variable MIN_PRIORITY and MAX_PRIORITY?

a) 0 & 63

b) 1 & 10

c) 0 & 1

d) 1 & 32

x) Which one of the following is not java swing container?

a) Panel

b) Tabbed Pane

c) Scroll Pane

d) Scroll bar

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Bachelor in Computer Applications   **Full Marks: 60**
Course Title: Probability and Statistics   **Pass Marks: 24**
Code No: CAST 202   **Time: 3 hours**
Semester: III

Center:	Symbol No:

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.   **[10×1 = 10]**

1. Circle (O) the correct answer.

   i) How many types of data on the basis of sources of data collection?
      a) 1   b) 2   c) 3   d) 4

   ii) Which is more appropriate central tendency to find the average of profit?

       a) Arithmetic mean   b) Median

       c) Mode   d) All

   iii) What is the range of Correlation?

       a) 0 to ∞   b) -∞ to ∞   c) -1 to 1   d) 0 to 1

   iv) If r=0.2 then coefficient of determination implies that

       a) 20% of total variation in dependent variable has been explained by independent variable.

       b) 40% of total variation in dependent variable has been explained by independent variable.

       c) 2% of total variation in dependent variable has been explained by independent variable.

       d))4% of total variation in dependent variable has been explained by independent variable.

   v) What is the minimum value of Probability?

       a) 1   b) 100   c) 0   d) None of above

   vi) In case of Normal distribution

       a) Mean >Median   b) Mean =Median   c) Mean ≤Median   d) Mean ≥Median

   vii) The regression line of X on Y and Y on X are intersect at the point

       a) (μ,0)   b) (a,b)   c) (X,Y)

viii) In case of systematic sampling

    a) sample mean is biased estimator population mean.

    b) sample mean is unbiased estimator population mean.

    c) sample mean can't estimate population mean.

    d) sample mean may equal to population mean.

ix) Mean of Chi-Square distribution with n degrees of freedom is

    a) 1   b) 0   c) 2n   d) n

x) How do you obtain degree of freedom in one-way ANOVA?

    a) (k, n-1)   b) (k, n-k)

    c) (k-1, n-1)   d) k-1, n-k)

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Bachelor in Computer Applications   **Full Marks: 60**

Course Title: System Analysis & Design   **Pass Marks: 24**

Code No: CACS 203   **Time: 3 hours**

Semester: III

Centre: **Symbol No:**

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.   **[10×1 = 10]**

2. Circle (O) the correct answer.

    i)   Which of the following Information systems are aimed at improving the routine business activities on which all organizations depend?

        a) Management Information systems   b) Decision support systems

        c) Transaction Processing Systems   d) Executive Information

    ii) The project life cycle consists of

        a) Understanding the scope of the project   b) Objectives of the project

        c) Formulation and planning various activities   d) Word Processor

    iii) Which is the most important feature of spiral model?

        a) Quality Management   b) Efficiency Management

        c) Risk Management   d) Performance Management

    iv) …………… includes the existing system, the proposed system, system flow charts, modular design of the system, print layout charts and data file designs.

        a) Feasibility Report   b) Functional Specification Report

        c) Design Specification Report   d) Terms of Reference

v) For the best Software model suitable for the project, in which of the phase the developers decide a roadmap for project plan?

a) Software

b) System Analysis   c) Coding
d) Testing

vi) Using the ………… approach, a new system is tested in one part of the organization before being implement in others.

a) Direct b) Parallel c) phased d) pilot

vii) ……………. extends the software beyond its original functional requirements.

a) Adaptive maintenance

b) Perfective maintenance

c) Corrective maintenance

d) Preventive maintenance

viii) Which normal form looks at removing partial dependencies?

a) First Normal Form

b) Second Normal Form

c) Third Normal Form

d) Fourth Normal Form

ix) In constructing ER diagrams, double ovals are used to denote …………..

a) Multi-value table b) Multi-value entity c) Multi-value attributes

d) Multi-value key

x) Testing beyond normal operational capacity is ……………..

a) Performance testing

b) Stress testing

c) Recovery testing

d) None of the above

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Bachelor of Arts in Computer Application
Course Title: Web Technology
Code No: CACS 205
Semester: III

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Centre: **Symbol No:**

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.

1. Circle (O) the correct answer.

i) Which of the following provide additional information about HTML elements?

    a) Headings   b) Paragraphs   c) Attributes   d) Styles

ii) Which of the following is NOT an inline element?

    a) <img>   b) <span>   c) <input>   d) None of the above

iii) How can you make an e-mail link?

    a) <a href="mailto:xxx@yyy">   b) <mail href="xxx@yyy ">

    c) <mail>xxx@yyy </mail>   d) <a href="xxx@yyy ">

iv) For XML document to be valid?

    a) Document need to be well formed also

    b) Document need not to be well formed

    c) Document need to be well formed & valid

    d) Document validity has no relationship with well formedness

v) W3C is stands for

    a) World Wide Web Center   b) World Wide Web Company

    c) World Wide Web Consortium   d) World Wide Web Certificate

vi) XSL is,

    a) AN XML based language to create style sheets

    b) Extensible solution language

    c) A language which is not used in XML
    d) Extended stylesheet language

vii) CSS uses dot (.) for,

    a) Element selector   b) Class selector

    c) ID selector   d) Attribute selector

viii) Namespace in XML is used to,

a) Distinguishes one XML vocabulary from another

b) Provides the spaces into name

c) Querying language

d) Make duplicate of XML validation

ix) A cookie is often used to identify a

a) User   b) Browser

c) Web page   d) Client

x) Server side scripts is

a) Visible to the end user   b) Invisible to the end user

c) Defined to user   d) None