VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST
(Autonomous & Residential)
[Affiliated to Madurai Kamaraj University]
B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Allied Subject : Second Semester : Paper – I
STATISTICS & PROBABILITY
Under CBCS – Credit 5

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. Which among the following is a measure of positional average?

    a) Arithmetic mean   b) median

    c) harmonic mean   d) Geometric mean

2. Median usually lies between _____.

    a) Mean and mode   b) Mean and G.M.

    c) Mean and H.M.   d) G.M and H.M.

3. What is the range of the following data?

Class	40-45	45-50	50-55	55-60	60-65	65-70
Frequency	4	13	14	12	5	2

    a) 20   b) 30   c) 25   d) 35

4. If all values of a sample are same, then its variance is

    a) 1   b) 0   c) 2   d) Cannot be determined

5. Which of the statements do not hold true?

    a) Both regression coefficients cannot be greater than 1

    b) Regression coefficients are unaffected by origin shift and scale shift

    c) Both correlation and regression coefficients are of same sign

    d) Two regression lines coincide if $f_r = \pm 1$

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6. Classical definition of probability gives that if the elementary events of a random experiment are mutually exclusive, exhaustive and equally likely, then

   a) P(A)=Number of outcomes of A/ Total number of outcomes

   b) P(A)=Number of elements in A

   c) P(A)=Number of elements in S/ Number of outcomes of A

   d) None of the above

7. If $P(A) = 0.7$, $P(B) = 0.2$, $P(A \cap B)) = 0.2$, what is the probability that neither A nor B occurs?

   a) 0.3   b) 0.2   c) 0.8   d) 0.7

8. What is the probability that a single toss of a fair dice results in a number greater than 3 if it is given that toss resulted in an odd number?

   a) 1/6   b) ½   c) 1/3   d) 5/6

9. A coin is tossed until a tail turns up. Let Z be the function representing the required number of tosses. Here sample space S={T,HT,HHT,HHHT,HHHHT,…..}. Z(T)=1, Z(HT)=2,….What is the range set of Z?

   a) {1,2,3,…}   b) {0,1,2,3,…}   c) {1,2,3}   d) None of these

10. In the previous question (Question no. 96) P{X=3} = _____

    a) 1/5   b) 3/10   c) 1/100   d) 1/50

SECTION – B

Answer any FIVE Questions : $(5 \times 2 = 10)$

11. List out the characteristics to be satisfied by an ideal measure of central tendency.

12. Find the arithmetic mean for the following distribution

1	2	3	4	5	6	7
5	9	12	17	14	10	6

13. What is range?

14. Discuss any two operations on set.

15. Define random variable.

16. What is continuous random variable?

17. List out the applications of t distribution.

SECTION – C

Answer ALL Questions : $(5 \times 5 = 25)$

18. a) The geometric mean of 10 observations on a certain variable was calculated as 16.2. It was later observed that one observation was wrong as 12.9 instead of 21.9 . Apply appropriate corrections and calculate the correct geometric mean.

(OR)

   b) A Cyclist pedals from his house to his college at a speed of 10km per hour and back from the college to his house at 15 km per hour. Find the average speed.

19. a) Calculate the quartile derivation and mean derivation from the mean for the following data

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No of Students	6	5	8	15	7	6	3

(OR)

   b) Calculate the mean and standard deviation of the following table of 542 members

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No of Members	3	61	132	153	140	51	2

20. a) Four cards were drawn from random pack of 52 cards. Find the

probability that

    i) They are king, queen, a jack and an ace

    ii) They are black and two are red

    iii) There are two cards of heart and two cards of diamond

(OR)

   b) Two unbiased dices are thrown. Find the probability that

    i) both dice show the same number

    ii) the first dice show 6

    iii) the total numbers of dice is 8

21. a) If $P(x) = \{x/15; x = 1,2,3,4,5 \quad 0, \text{elsewhere}\}$

    Find i) $P(x) = 1$ or 2 ii) $P\ \{1/2 < X < 5/2 \mid x > 1\}$

(OR)

   b) A random; variable x has the following probability functions

Values of x :	0	1	2	3	4	5	6	7
P(x)	0	k	2k	2k	3k	k^2	$2k^2$	$7k^2+k$

    i) Find k   ii) Determine the distribution of X

22. a) The mean weakly sales of soap bars in departmental stores was

    146 : 3 bar per store . After an advertisement the weekly sales in

    22 stores were increased to 153:7 and standard deviation of 17.2

    Was the advertisement successful?

(OR)

   b) A random sample of 27 pairs of observation from a normal

    population gave a correlation coefficient of 0.6 Is this signification

    of correlation in the population ? Also find least of r in a sample 18

    pairs of observations, significant at 5% level of significance.

SECTION – D

Answer any THREE Questions : (3 × 10 = 30)

23. Eight coins were tossed together and the number of heads resulting was noted. The operation was repeated 256 times and the frequencies (f) were obtained for different values of x, the number of heads are shown in the following table. Calculate median , quartiles, 4th decile and 27th percentile

24. An analysis of monthly wages paid to the workers of two firms A and B belonging to the same industry gives the following results

	Firm A	Firm B
No of Daily workers	500	600
Average daily wages	Rs.186	Rs175
Variance of distribution wages	81	100/

   i) Which firm A or B has a larger wage bill

   ii) Calculate the average daily wage

   iii) Which firm A or B has greater variability in individual wages

25. Discuss various laws on sets.

26. A continuous random variable X had a p.d.f $f(x) = 3X^2$, $0 \le x \le 1$
   Find a , b such that   i) $P(X \le a) = P(X > a)$ and   ii) $P(X > b) = 0.05$

27. A random sample of 10 boys have the following IQ's 70,120,110, 101,88,83, 95,98,107, 100. The assumption of population mean of IQ of 100? Find a reasonable range in which most mean of I.Q Value of samples of 10 boys lie.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019

Part – III : Allied Subject : Fourth Semester : Paper – I

NUMERICAL METHODS FOR COMPUTER SCIENCE

Under CBCS – Credit 5

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. In general the ratio of truncation error to that of round off error is

   a) 2:1   b) 1:1   c) 1:2   d) 1:3

2. Using Newton-Raphson method, find a root correct to three decimal

   places of the equation $x^3 - 3x - 5 = 0$

   a) 2.275   b) 2.279   c) 2.222   d) 2.999

3. _____ is /are following central interpolation methods

   a) Guass forward   b) Guass backward

   c) Laplace Everett   d) all

4. The root of the equation $x^3 - 3x + 1 = 0$ lies between _____

   a) 1.5313 and 1.5323   b) 1 and 2   c) 2 and 3   d) 3 and 4

5. Newton forward interpolation formula, the first and second terms

   will give the _____ interpolation.

   a) Linear   b) Parabolic   c) Hyperbolic   d) Non-linear

6. The degree of y(x) in Trapezoidal Rule is _____.

   a) 1   b) 2   c) 3   d) 6

7. The degree of y(x) in Trapezoidal Rule is _____.

   a) 1   b) 2   c) 3   d) 6

8. Numerical differentiation can be used only when the difference of some order _____.

    a) Equally spaced   b) Unequally spaced

    c) Are constant   d) Independent

9. A _____ of differential equation is a solution got form the general solution by giving particular values to the arbitrary constant

    a) Solution   b) General solution

    c) Particular solution   d) Complete solution

10. Gauss Forward interpolation formula involves

    a) Even differences above the central line and odd differences on the central line

    b) Even differences below the central line and odd differences on the central line

    c) Odd differences below the central line and even differences on the central line

    d) Odd differences above the central line and even differences on the central line

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Find a positive root of $3x - \sqrt{1} + \sin x = 0$ by iteration method.

12. Solve $x^3 = 2x + 5$ for the positive root by iteration method.

13. Write down Newton backward interpolation formula.

14. Write down Gauss backward interpolation formula.

15. Write down Lagrange's interpolation formula.

16. Write down the trapezoidal rule.

17. Write down Taylor's series formula.

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Solve the system by Gauss-Elimination method

       $2x+3y-z=5$; $4x+4y-3z=3$ and $2x-3y+2z=2$

       (OR)

    b) Find an approximate root of $x \log_{10} x - 1.2 = 0$ by false position method.

19. a) Apply Gauss-Jordan method to find the solution of the following system: $10x+y+z=12$; $2x+10y+z=13$; $x+y+5z=7$

       (OR)

    b) Find the values of y at x=21 from the following data.

x :	20	23	26	29
y :	0.3420	0.3907	0.4384	0.4848

20. a) Using the following table, apply Gauss's forward formula to get f(3.75).

x :	2.5	3.0	3.5	4.0	4.5	5.0
y :	24.145	22.043	20.225	18.644	17.262	16.047

       (OR)

    b) Using Lagrange's formula of interpolation find y(9.5) given

x :	7	8	9	10
y :	3	1	1	9

21. a) Find the first two derivatives of $(x)^{1/3}$ at x=50 given the table below:

x :	50	51	52	53	54	55	56
y=x$^{1/3}$:	3.6840	3.7084	3.7325	3.7563	3.7798	3.8030	3.8259

       (OR)

    b) Evaluate $\int_{-3}^{3} x^4 dx$ by using Trapezoidal rule. Verify your results by actual integration.

22. a) Solve y'+y=e^x, y(0)=0, by picard's method.

(OR)

b) Given y'=-y and y(0)=1, determine the values of y at x=(0.01)
(0.01) (0.04) by Euler's method.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. Find the positive root of x^3-x=1 correct to four decimal places by bisection method.

24. Solve the system of equations by Gauss-Jordan method:

   x+y+z+w=2

   2x-y+2z-w=-5

   3x+2y+3z+4w=7

   x-2y-3z+2w=5

25. Using Newton's divided difference formula, find the values of f(2), f(8) and f(15) given the following table:

x :	4	5	7	10	11	13
f(x) :	48	100	294	900	1210	2028

26. The population of a certain town is given below. Find the rate of growth of the population in 1931, 1941, 1961 and 1971.

Year :	1931	1941	1951	1961	1971
Population In thousands :	40.62	60.80	79.95	103.56	132.65

27. Evaluate the values of y(0.1) and y(0.2) given y''-x(y')^2+y^2=0;
    y(0)=1,y'(0)=0 by using Taylor series method.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Second Semester : Paper – I
OBJECT ORIENTED PROGRAMMING C++ AND DATA STRUCTURE
Under CBCS – Credit 4
Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   (10 × 1 = 10)

1. _____ is one of the ways to achieve polymorphism.

   a) Inheritance   b) Data overloading

   c) Operator overloading   d) Message binding

2. _____ operator returns the address of the identifier.

   a) &   b) *   c) &&   d) !

3. Function overloading is also similar to which of the following?

   a) operator overloading   b) constructor overloading

   c) destructor overloading   d) none of the mentioned

4. Overloaded functions are _____.

   a) very long functions that can hardly run

   b) Two or more functions with the same name but different number
      of parameters or type

   c) short functions that can easily modified

   d) One function containing another one or more functions inside it

5. The mechanism that binds code and data together and keeps them
   secure from outside world is known as _____

   a) Abstraction   b) Encapsulation   c) Inheritance   d) Polymorphism

6. >> is called as _____ operator.

   a) insertion   b) extraction   c) greater than   d) lesser than

7. _____ is a sequential representation of similar data types.

   a) Queue   b) Array   c) Stack   d) List

8. In linked list each element has _____ field

   a) 4   b) 3   c) 2   d) 1

9. In a directed tree any node which has out degree 0 is called a

   terminal node or_____.

   a) a tree   b) a list   c) a node   d) a leaf

10. An m*n array has _____ number of elements

   a) m   b) n   c) m2   d) m*n

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Mention any FOUR unique advantages of OOP.

12. What are memory management operators?

13. Mention the use of static data members.

14. List out the operators that can not be overloaded.

15. Define priority queue.

16. What is meant by complete binary tree?

17. How graphs can be represented? Clarify.

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Discuss about any FIVE basic concepts of Object Oriented Programming.

        (OR)

   b) Write a C++ program to evaluate the following expression to

0.0001% of accuracy.

$$s = 1 + \left(\frac{1}{2}\right)^2 + \left(\frac{1}{3}\right)^3 + \cdots\cdots\cdots\cdots + \left(\frac{1}{n}\right)^n.$$

19. a) How member functions can be defined? Give example.

        (OR)

   b) Write a C++ program to overload '+' operator to add two complex numbers using friend function.

20. a) Discuss the following: i) Virtual base class

                             ii) Abstract class

        (OR)

   b) Explain virtual functions with suitable example.

21. a) How stacks are implemented using linked list? Explain.

        (OR)

   b) Write a code to delete a node from head and tail in a linked list.

22. a) Write a function for searching in a binary search tree and analyze its complexity.

        (OR)

   b) Write a code to detect cycles in a graph.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. C++ is rich in its' data type – Justify.

24. Explain the various types of constructors with suitable example.

25. Explain any FIVE formatted console I/O operations with suitable example.

26. Write a procedure for Quicksort. Explain with an example.

27. What are Skip Lists? How they are implemented? Explain.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Second Semester : Paper – II
MICRO PROCESSOR & INTERFACING TECHNIQUES
Under CBCS – Credit 4

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. The first digital electronic computer was built in the year_____

   a) 1950   b) 1960   c) 1940   d) 1930

2. The IF is called as _____

   a) initial flag   b) indicate flag   c) interrupt flag   d) inter flag

3. The CS register stores instruction _____ in code segment

   a) stream   b) path   c) codes   d) stream line

4. The microprocessor determines whether the specified condition exists or not by testing the

   a) carry flag   b) conditional flag   c) common flag   d) sign flag

5. _____ is used to write into memory

   a) RD   b) WR   c) RD / WR   d) CLK

6. To perform any operations, the MP should identify the _____

   a) register   b) memory   c) interface   d) system

7. An _____ is used to fetch one address

   a) internal decoder   b) external decoder   c) encoder   d) register

8. 8086 and 8088 contains _____ transistors

   a) 29000   b) 24000   c) 34000   d) 54000

9. Status register is also called as _____

   a) accumulator   b) stack   c) counter   d) flags

10. During a read operation the CPU fetches _____

   a) a program instruction   b) another address

   c) data itself   d) all of the above

SECTION – B

Answer any FIVE Questions :   (5 × 2 = 10)

11. Define Microcomputer.

12. Define Microcode.

13. Write the purpose of 'READY' pin in 8086.

14. Define Software Interrupt.

15. What is meant by Instruction Set?

16. What is meant by Burst Mode Data Transfer?

17. Write about Fetch/Decode Unit.

SECTION – C

Answer ALL Questions :   (5 × 5 = 25)

18. a) List out the important features of RISC Microprocessor.

(OR)

   b) Explain Microprocessor with MMX Technology.

19. a) Summarize Pin Description for Minimum Mode.

(OR)

   b) Explain Addressing Modes of 8086.

20. a) Outline about 8086 Instruction Groups.

(OR)

   b) Write an ALP program to Find Smallest Number in a Data Array.

21. a) Write short notes on 8259 Programmable Interrupt Controller.

(OR)

   b) Write about Intel 8279 Keyboard Display Interface.

22. a) Narrate on PowerPC 601.

(OR)

   b) State about Celeron Processor.

SECTION – D

Answer any THREE Questions :   (3 × 10 = 30)

23. Elaborate Bit-Slice Processors.

24. Discuss about on Register Organization of 8086.

25. Discuss in detail about MOV instructions with examples.

26. Describe about 8237 DMA.

27. Enumerate Pentium Microprocessor.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Fourth Semester : Paper – I
OPERATING SYSTEM
Under CBCS – Credit 4

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. Which system call returns the process identifier of a terminated child?

   a) get   b) exit   c) fork   d) wait

2. Operating System maintains the page table for

   a) each process   b) each thread

   c) each instruction   d) each address

3. A solution to the problem of external fragmentation is :

   a) compaction   b) larger memory space

   c) smaller memory space   d) none of the mentioned

4. With paging there is no _____ fragmentation.

   a) internal   b) external

   c) either type of   d) none of the mentioned

5. Which of the following does not interrupt a running process?

   a) A device   b) Timer

   c) Scheduler process   d) Power failure

6. In UNIX, each process is identified by its :

   a) Process Control Block   b) Device Queue

   c) Process Identifier   d) None of the mentioned

7. A character stream device transfers :

   a) bytes one by one   b) block of bytes as a unit

   c) with unpredictable response times   d) none of the mentioned

8. The signal operation of the semaphore basically works on the basic

   _____ system call.

   a) continue()   b) wakeup()   c) getup()   d) start()

9. In the _____ file organization, data are collected in the order

   in which they arrive where each record consists of one burst of data.

   a) pile   b) sequential

   c) indexed sequential   d) indexed

10. In _____ method, the file allocation table contains a

   separate one level index for each file, the index has one entry for

   each portion allocated to the file.

   a) chained allocation   b) indexed allocation

   c) contiguous allocation   d) Variable allocation

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Define Operating System.

12. Define segmented memory management.

13. What is meant by Multiprogramming?

14. Define Process.

15. Differentiate preemptive and non-preemptive scheduling.

16. What is the work of I/O Scheduler?

17. What is mean by physical file system?

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Describe the importance of operating System.   **(OR)**

   b) What are the basic concepts of OS?

19. a) Discuss about single contiguous allocation.   **(OR)**

   b) Explain about relocatable partitioned memory management.

20. a) Define Process State Explain about Process State model. **(OR)**

   b) Explain about Multi-processor systems.

21. a) What are the various device characteristics?   **(OR)**

   b) Explain about I/O device handlers.

22. a) Write short notes on Information management.   **(OR)**

   b) Explain about Symbolic file system.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. Discuss in detail about an OS process view point.

24. Write a detailed note on Demand Paging.

25. Discuss in detail about Process synchronization.

26. Define Device management. What are the various techniques for device management?

27. Define file system. Discuss the general model of a file system.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Fourth Semester : Paper – II
RELATIONAL DATABASE MANAGEMENT SYSTEM
Under CBCS – Credit 4
Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute.

   a) Domain   b) Relation   c) Set   d) Schema

2. In E-R diagram generalization is represented by

   a) Ellipse   b) Dashed ellipse c) Rectangle   d) Triangle

3. Which forms are based on the concept of functional dependency?

   a) 1NF   b) 2NF   c) 3NF   d) 4NF

4. A schema describes

   a) Record & files   b) data elements

   c) record relationships   d) All of the above

5. The schema for hierarchical database is _____.

   a) A tree   b) A Graph   c) A b-tree   d) None

6. Which of the following is one of the basic approaches for joining tables?

   a) Sub queries   b) Union Join   c) Natural join d) All of the above

7. SQL data definition commands make up a _____.

   a) DDL   b) DML   c) TCL   d) XML

8. What is the function of the union operation?

   a) It combines the results of any two different queries

   b) It combines the results of two different queries which have the same set of attributes in the select Clause

   c) It combines the results of two different queries which have the same condition in the where clause

   d) It gives the Cartesian product of the results of any 2 queries

9. Which constraint that requires that the column contain a value when it is initially inserted into the table:

   a) IS NULL   b) NOT NULL   c) UNIQUE   d) NONE

10. Triggers _____ enabled or disabled

   a) Can be   b) Cannot be   c) Ought to be d) Always

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. What is database?

12. Define E-R Model.

13. What is Data Dictionary?

14. Define DDL.

15. Define Privilege.

16. Write the syntax for DROP command with example.

17. What is Database Trigger?

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Discuss about the Relational Algebra.   **(OR)**

   b) Write a short note on E-R diagram with suitable example.

19. a) Write a short note on 1NF.   **(OR)**

   b) Discuss about the DML and DCL command.

20. a) Explain Data Validation.   **(OR)**

   b) Discuss about the Client – Server Systems.

21. a) Explain different Data Types in Oracle.   **(OR)**

   b) Write a short note on CREATE and ALTER Command.

22. a) Discuss about the cursor with Example program. **(OR)**

   b) Explain Database Administration Tools.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. Explain the components of an E-R model.

24. Explain Boyce – Codd Normal Form.

25. Explain Backups and Recovery.

26. Discuss about the Aggregate functions.

27. Explain the Structure of PL/SQL.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Fourth Semester : Paper – III
DOT NET PROGRAMMING
Under CBCS – Credit 4

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. Who is the developer of Visual Basic .NET?

    a) Microsoft   b) IBM   c) Sun Systems d) Open source

2. Which is not an integer data type?

    a) Single   b) Byte   c) Short   d) Integer

3. What is a type of procedure found in VB.Net?

    a) Event   b) Function   c) Sub   d) All of the above

4. Which of the following Loop structure is not supported by VB.Net?

    a) Do ....Loop   b) For ....Next

    c) Do ....While   d) For Each ....While

5. _____ tool is used to modify the characteristics of a control used in Visual Basic .NET project.

    a) Control Editor   b) Properties Editor

    c) Characteristics detail   d) Status Bar

6. Which control is an example of an object in VB.NET?

    a) Button   b) Label   c) Textbox   d) All of the above

7. The first event triggered in an .aspx page is _____

    a) Page_Init()   b) Page_Load()

    c) Page_Render()   d) Page_Click()

8. When an ASP.NET file is placed on an IIS server and viewed through a browser, the resulting HTML page contains?

   a) all ASP.NET code

   b) as much ASP.NET code as is in the ASP.NET file

   c) ASP.NET and HTML code

   d) all HTML code

9. Which one of the following is not an event of the Datalist control?

   a) UpdateCommand   b) DeleteCommand

   c) ModifyCommand   d) CancelCommand

10. How many files do a Config folder contain?

   a) 3   b) 2   c) 5   d) 6

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. What is the use of .Net framework?

12. Define Structure.

13. Define Polymorphism.

14. What is an exception?

15. List out any four basic controls of VB NET.

16. Mention any four stages of an ASP.NET.

17. What is the use of ADO.NET?

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Describe .NET framework Architecture and its benefits.

(OR)

   b) Explain Array in c# with an example.

19. a) What are the basic controls used in VB.NET?

(OR)

   b) Give short notes on Events Handling Methods with an example.

20. a) Briefly explain about methods and properties of date and time structure in VB.NET.

(OR)

   b) Discuss Dialog Box Controls.

21. a) Give short notes on Basic Controls in ASP.NET.

(OR)

   b) Explain the elements of XML.

22. a) How to connect SQL server using code in VB.NET?

(OR)

   b) Bring out the features of ADO.NET.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. What are the different types of operators used in c# with an example? Explain.

24. Give detailed information about Exception Handling Mechanism with an example in VB.NET.

25. Explain the Windows Application Form with its properties and methods in VB.NET.

26. Describe the different categories of Web Server Control used in ASP.NET.

27. Mention different classes used in ADO.NET Architecture.

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VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST
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[Affiliated to Madurai Kamaraj University]
B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Core Subject : Sixth Semester : Paper – I

WEB TECHNOLOGY
Under CBCS – Credit 4

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   (10 × 1 = 10)

1. The _____ element is located within the ... tags.
   a) hr   b) h6   c) title   d) end

2. Which type of css uses style attribute?
   a) Internal   b) Inline   c) External   d) Mixed

3. CSS stands for _____
   a) Cascading style sheet   b) colorful style sheet
   c) computer style sheet   d) creative style sheet

4. Which of the following is correct about JavaScript?
   a) JavaScript is a lightweight, interpreted programming language
   b) JavaScript has object-oriented capabilities that allows you to
      build interactivity into otherwise static HTML pages
   c) The general-purpose core of the language has been embedded in
      Netscape, Internet Explorer, and other web browsers
   d) All of the above

5. How do you declare a JavaScript variable?
   a) var carName;   b) variable carName;
   c) v carName;   d) var acar name;

6. The escape sequence '\f' stands for
   a) Floating numbers
   b) Representation of functions that returns a value
   c) \f is not present in JavaScript
   d) Form feed

7. Syntax for closing and opening the connection in ADO.net is :
   a) sqlConn.Open() and sqlConn.close()
   b) sqlConn.open() and sqlConn.Close()
   c) sqlConn.Open() and sqlConn.Close()
   d) None of the mentioned

8. What class does the ASP.NET Web Form class inherit by default?
   a) System.Web.UI.Page   b) System.Web.UI.Form
   c) System.Web.GUI.Page   d) System.Web.Form

9. In _____, the hidden form fields are used to store the state of objects on client side and returned back to server in subsequent request (as postback occurs).
   a) View State   b) Session   c) Cookies   d) Query String

10. The _____ are used to customized the look and layout of the server controls according to the user's requirements.
    a) templates   b) custom controls
    c) custom templates   d) data templates

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Define the term World Wide Web.

12. What is Web Browser? Write any 2 Web Browsers.

13. Write the syntax and an example for the alert dialog box.

14. What is an array? How to declare the array in Java Script?

15. What are Cookies?

16. What is ASP.Net?

17. Define the term OLEDB.

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Explain about Client IP Address.   **(OR)**
    b) Explain about the structure of an HTML program.

19. a) Explain Looping Statements in Java Script.   **(OR)**
    b) Illustrate in detaile about data types in Java Script.

20. a) Explain about HTML objects in Java Script.   **(OR)**
    b) Explain about the form object methods.

21. a) Exemplify the Page Structure in ASP.Net.   **(OR)**
    b) Discuss about HTML Input File Control in ASP.Net.

22. a) Explain OLEDB Connection Class.   **(OR)**
    b) Explain Custom Errors in IIS.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. Elaborate the Concept of Lists in HTML.

24. What is an Operator? Discuss about an operators with example in Java Script.

25. Write about the use of setting a Cookie Program with example.

26. Write any FIVE Web Server Controls and Explain.

27. Explain in detaile about Data Set Class.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – III : Elective Subject : Sixth Semester : Paper – I

MOBILE COMPUTING
Under CBCS – Credit 4

Time: **3** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. The shape for the cellular region for maximum radio coverage is

   a) Circular   b) Square   c) Circle   d) Hexagon

2. Paging systems could be used to

   a) Send numeric messages   b) Send alphanumeric messages

   c) Voice message   d) All of the above

3. The advantage of using frequency reuse is

   a) Increased capacity

   b) Limited spectrum is required

   c) Same spectrum may be allocated to other network

   d) All of the above

4. When all of the radio channels are in use in a trunking system

   a) The user is blocked   b) The access to the system is denied

   c) The queue may be provided d) All of the above

5. 2G CDMA standard – cdma one supports up to

   a) 8 users   b) 64 users   c) 32 users   d) 116 users

6. Who set the standards of GSM?

   a) ITU   b) AT & T   c) ETSI   d) USDC

7. Which of the following specifies a set of media access control (MAC) and physical layer specifications for implementing WLANs?

   a) IEEE 802.16   b) IEEE 802.3   c) IEEE 802.11 d) IEEE 802.15

8. What is the nominal range of Bluetooth?

   a) 1 Km   b) 10 m   c) 1 m   d) 10 Km

9. WAP is used for

   a) Web browser   b) Macro- Browser

   c) Micro-Browser   d) Mobile Browser

10. WML pages only contains references to script _____.

   a) URLs   b) forms   c) pages   d) links

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. What is mobile computing technology?

12. Define wireless communication.

13. Define GSM.

14. What do you mean by W-LAN?

15. Write about mobile internet.

16. What is MACA?

17. List out the importance of digital system.

SECTION – C

Answer ALL Questions :   **(5 × 5 = 25)**

18. a) Explain about dynamic client server model.

                 (OR)

   b) Discuss about mobile agent model.

19. a) Examine the principle of multiplexing.

                 (OR)

   b) Write about digital modulation spread spectrum.

20. a) Investigate about mobile telephone system using cellular concept.

                 (OR)

   b) What are the principles of mobile communication?

21. a) Write short notes on W-LAN.

                 (OR)

   b) Discuss about the concept of UDP.

22. a) Discuss about the WAP model.

                 (OR)

   b) Draw the architecture of WAP.

SECTION – D

Answer any THREE Questions :   **(3 × 10 = 30)**

23. Write in detail about Client Proxy Server model.

24. Explain in detail about the Analog modulation Spread Spectrum.

25. Describe in detail about the concept of GSM with neat diagram.

26. Discuss about the architecture of Bluetooth with neat diagram.

27. Illustrate the structure and features of WML.

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B.A. / B.Sc. Degree (Semester) Examinations, April 2019

Part – IV : Non-Major Elective Subject : Second Semester : Paper – I

WEB PROGRAMMING

Under CBCS – Credit 2

Time: **2** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   (10 × 1 = 10)

1. Expand HTML?

    a) Hyper Texture Making of Language

    b) Hyper Text Markup Language

    c) Hyper Text Marking of Links

    d) Higher Text Markup Language

2. HTML is similar to a _____.

    a) word processing language   b) screen editor

    c) scripting language   d) search engine

3. _____ in a form causes changes to server data.

    a) Method = 'post'   b) Method = 'get'

    c) Method = 'change'   d) Method = 'action'

4. shape = "_____" creates a circular hotspot.

    a) circ   b) circle   c) round   d) encircle

5. DOM is an acronym for _____.

    a) document object model   b) document object metrics

    c) digital object model   d) digital object metrics

6. XML is _____.

   a) case-Sensitive   b) not Case-Sensitive

   c) expensive   d) attribute oriented

7. All elements of an image map are contained inside the _____ tags.

   a) <image>   b) <map>   c) <poly>   d) <src>

8. Which type of css uses style attribute?

   a) Internal   b) Inline   c) External   d) Mixed

9. HTML documents are created using _____ editors.

   a) markup   b) text   c) image   d) paint

10. The input _____ inserts a one-line text bar into the form.

   a) type='reset'   b) type='submit'

   c) type='text'   d) type='password'

SECTION – B

Answer any FIVE Questions :   (5 × 2 = 10)

11. Expand XHTML and HTTP.

12. Expand TCP and IP.

13. List out the any two web browsers?

14. Define Marquee tag with an example?

15. The following purpose of tag.   i) <i>   ii) <b>

16. Define internet.

17. Type of list tag in HTML.

SECTION – C

Answer ALL Questions :   (3 × 9 = 27)

18. a) Briefly discuss about the structure of HTML.

   (OR)

   b) Explain the followings i) Web page   ii) website   iii) browser

19. a) Briefly discuss about ordered list with example program.

   (OR)

   b) Briefly explain about unordered list with suitable example program.

20. a) Explain about heading tags with suitable example program.

   (OR)

   b) Write any simple program to create table.

SECTION – D

Answer any TWO Questions :   (2 × 14 = 28)

21. Discuss in detail about list tag?

22. How to create table using its various attributes?
    Explain with an example program.

23. Write a HTML program to display your Bio-Data using form tag.

24. Explain about the <FORM> tag with an example program.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – IV : Skill Based Subject : Fourth Semester : Paper – I

UNIX AND SHELL PROGRAMMING
Under CBCS – Credit 2

Time: **2** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   (10 × 1 = 10)

1. Which command is used for making the scripts interactive?
   a) ip   b) input   c) read   d) write
2. The name of the script is stored in which special parameter?
   a) $1   b) $0   c) $#   d) $*
3. Which one of the following option is used for checking that the string is NULL string?
   a) –a   b) –o   c) –z   d) –n
4. expr can perform _____ arithmetic operations.
   a) 2   b) 4   c) 5   d) 3
5. Which command is used by the shell for manipulating positional parameters?
   a) set   b) cut   c) case   d) paste
6. A computer system that permits multiple users to run program at same time.
   a) Real time system   b) Multi programming system
   c) Time sharing system   d) Multi-tasking system
7. A scheduler which selects processes from secondary storage device is called
   a) Short term scheduler   b) Long term scheduler
   c) Medium term scheduler   d) Process scheduler
8. Which option of the kill command sends the given signal name to the specified process?
   a) –l   b) –n   c) –s   d) –a

9. Which command executes 'command' in place of the current process instead of creating a new process?
   a) exec   b) command   c) trap   d) none of the mentioned
10. Which command sets the number for all lines?
    a) :set li   b) :set ln   c) :set nu   d) :set nl

SECTION – B

Answer any FIVE Questions :   (5 × 2 = 10)

11. Define operating system.
12. What is meant by UNIX?
13. Difference between multiuser and multitasking.
14. Define Boot block?
15. The following purpose of filter command.   i) pg   ii) paste
16. What is meant by banner command with example?
17. What is a shell program?

SECTION – C

Answer ALL Questions :   (3 × 9 = 27)

18. a) Briefly discuss salient features of Unix.   **(OR)**
    b) Describe about Unix system organization with diagram.
19. a) Explain the touch command.   **(OR)**
    b) Write a shell program to add two numbers.
20. a) Explain shell variable and rules.   **(OR)**
    b) Briefly discuss about the operators in shell.

SECTION – D

Answer any TWO Questions :   (2 × 14 = 28)

21. Discuss about a bit of mathematics.
22. Explain the file related commands.
23. Explain the loop control structures.
24. Define functions and user define function.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – IV : Skill Based Subject : Sixth Semester : Paper – I

PC HARDWARE & TROUBLESHOOTING
Under CBCS – Credit 2

Time: **2** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. RAM Stands for _____.
   a) Random Access Memory   b) Read Access Memory
   c) Ready Access Memory   d) Random Arithmetic Memory

2. Central Processing Unit (CPU) consists of
   a) control unit   b) arithmetic and logic unit
   c) main store   d) all of above

3. Devices that accepts data from outside computer and transfer into CPU are called
   a) Input device   b) Output device
   c) Analog device   d) Digital device

4. In a semi-custom chip, array of gates is provided without completing the circuit interconnection.
   a) PAL   b) PLA   c) both a & b   d) VGA

5. What voltage does a Pentium system use
   a) +12V   b) +5V   c) +8V   d) +3.3V

6. From what location are the 1st computer instructions available on boot up?
   a) ROM BIOS   b) CPU   c) CONFIG.SYS   d) boot.ini

7. What product is used to clean smudged keys on a keyboard?

   a) TMC solvent   b) Silicone spray

   c) Denatured alcohol   d) All-purpose cleaner

8. Main store' of CPU is also called

   a) main memory   b) temporary memory

   c) immediate access store   d) both A & C

9. ESD would cause the most damage to which component?

   a) Power supply   b) Expansion board   c) Monitor   d) Keyboard

10. Modem is _____.

   a) Monitor   b) Cable Wire

   c) Modulator Demodulator   d) Power supply

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Define Microprocessor?

12. Write about NIC?

13. Write any 5 Input devices?

14. Define FDD?

15. Write any 2 Troubleshooting tools.

16. Define BIOS?

17. Define RAM & ROM.

SECTION – C

Answer ALL Questions :   **(3 × 9 = 27)**

18. a) Explain about the basic parts of computer with neat diagram.

(OR)

   b) Briefly discuss about the

       i) Main Memory   ii) Secondary Memory

19. a) Explain in detail about input & output devices.

(OR)

   b) Explain in detail about cables and its connection.

20. a) Explain briefly about the functional description of Keyboard.

(OR)

   b) Briefly discuss about CD & DVD Technology.

SECTION – D

Answer any TWO Questions :   **(2 × 14 = 28)**

21. Explain about the components of Motherboard.

22. Briefly discuss about the printer, Keyboard, Joystick & Scanner.

23. Explain about

       i) FDD   ii) HDD   iii) USB   iv) Tape Drive

24. Trouble shoots the problems in CRT monitors and printers.

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – IV : Skill Based Subject : Sixth Semester : Paper – II

DTP
Under CBCS – Credit 2

Time: **2** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. _____ is used to move an image or a portion of an image from one location to another.

    a) Eyedropper Tool   b) Zoom Tool c) Crop Tool   d) Move Tool

2. The built-in support across different applications is known as _____.

    a) Text tool   b) Crop tool   c) Move tool   d) Zoom tool

3. _____ displays the various shades of the color you have selected in the color slider bar.

    a) Color picker   b) Slide Bar   c) Alert   d) Crop

4. What is the shortcut key for Paste a file?

    a) Ctrl+O   b) Ctrl+V   c) Shift+O   d) Ctrl+W

5. PDF Stands for

    a) Portable Document Format   b) Portable Drive Format

    c) Portable Disk Format   d) Photographic Document Format

6. CMYK Stands for

    a) Cyan Magenta yellow black   b) Cyan Magenta yellow blue

    c) Color Magenta yellow blue   d) none of these

7. RGB Stands for

   a) Real Graphic Bit   b) Red Green Blue

   c) Right Green Based   d) Radial Graphic Base

8. ppi Stands for

   a) Point Point Inch   b) Pixel Point Inch

   c) Pixel Per Inch   d) Pixel-Pixel Inch

9. Which tool is used for crop the image?

   a) Crop Tool   b) Brush Tool   c) Hand Tool   d) Paint Tool

10. JPEG Stands for

   a) Joint Photographic Experts Group

   b) Joint Photography Experts Group

   c) Joint Photo pixel Experts Group

   d) Joint Photographic Experimental Group

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. How to save and opening an existing document.

12. Write any five Photoshop tools.

13. Write the toolbar of layer palette.

14. Define Zoom tool.

15. Write the types of text.

16. Define Page layout.

17. Define color palette.

SECTION – C

Answer ALL Questions :   **(3 × 9 = 27)**

18. a) How to create a document in Photoshop?

                     (OR)

   b) Explain about File format in Photoshop.

19. a) Explain about Background Eraser Tool and Healing Brush tool.

                     (OR)

   b) Explain about Brightness/Contrast Palette.

20. a) Explain about Type Masking.

                     (OR)

   b) Discuss about the working with text in CorelDraw.

SECTION – D

Answer any TWO Questions :   **(2 × 14 = 28)**

21. Briefly explain about Toolbox and List out one by one?

22. Explain about the several ways of Editing Images.

23. Give a brief explains about the palettes in Photoshop?

24. Give a brief explains about the layers in Photoshop?

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B.Sc. Comp. Sci. Degree (Semester) Examinations, April 2019
Part – IV : Skill Based Subject : Sixth Semester : Paper – III
NETWORK SECURITY & CRYPTOGRAPHY
Under CBCS – Credit 2

Time: **2** Hours   Max. Marks: **75**

SECTION – A

Answer ALL Questions :   **(10 × 1 = 10)**

1. In cryptography, what is cipher?

   a) algorithm for performing encryption and decryption

   b) encrypted message

   c) both algorithm for performing encryption and decryption and
      encrypted message

   d) none of the mentioned

2. Caesar Cipher is an example of

   a) Poly-alphabetic Cipher   b) Mono-alphabetic Cipher

   c) Multi-alphabetic Cipher   d) Bi-alphabetic Cipher

3. Which one of the following algorithms is not used in asymmetric-key
   cryptography?

   a) RSA algorithm   b) Diffie Hellman algorithm

   c) electronic code book algorithm   d) none of the mentioned

4. How many rounds does the AES-192 perform?

   a) 10   b) 12   c) 14   d) 16

5. What is the expanded key size of AES-192?

   a) 44 words   b) 60 words   c) 52 words   d) 36 words

6. _____ exploits service flaws in computers to inhibit use by legitimate users

   a) Service threats   b) attacks   c) viruses   d) none

7. _____ key is also input to the encryption algorithm.

   a) Plain text   b) Secret   c) decryption   d) Encryption

8. Insertion of messages into the network from a fraudulent source is _____.

   a) Masquerade   b) Content   c) DOS   d) Key

9. _____ is an open source freely available software package for E-mail security

   a) PGP   b) S/MIME   c) DSS   d) DES

10. _____ are designed to collect information about the attacker's activity.

   a) Honey pot   b) Firewall   c) Intrusion   d) malware

SECTION – B

Answer any FIVE Questions :   **(5 × 2 = 10)**

11. Write about the one time pad.

12. Define cipher text.

13. What is logic bomb?

14. Write about the pin punctures.

15. What is boot sector virus?

16. Define the security mechanism.

17. Write about Ip security.

SECTION – C

Answer ALL Questions :   **(3 × 9 = 27)**

18. a) Explain about the Intruders.

                       (OR)

   b) Discuss about

        i) Firewall   ii) Segmentation and Reassembly

19. a) Write about Substitution techniques.

                       (OR)

   b) Discuss on Steganography.

20. a) Explain about the security attacks.

                       (OR)

   b) Discuss about

        i) Authentication   ii) Access control   iii) Masquerade

SECTION – D

Answer any TWO Questions :   **(2 × 14 = 28)**

21. Briefly discuss about the Advance Encryption standard.

22. List and briefly define categories of Security Services.

23. What are typical phases of operation of Virus & Worm?

24. Briefly discuss about the Digital Signature Standard.

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