



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

(Autonomous & Residential)

[Affiliated to Madurai Kamaraj University]

B.Sc.,(CS) Degree (Semester) Examinations, November -2016

Part – III : Allied Subject : First Semester : Paper – 1

DISCRETE MATHEMATICS

Under CBCS – Credit 4

Time: **3 Hours**

Max. Marks: **75**

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

1. Define Subset.
2. How many "words" of 3 distinct letters can be formed from the alphabet {a,b,y,z}?
3. If all the elements of an $m \times n$ matrix are zero, then the matrix is called a _____.
 - a) Null matrix
 - b) Diagonal matrix
 - c) Unit matrix
 - d) Square matrix
- 4 Define Lower triangular matrix.
5. Write the negation of the statement, $p: 2+3 > 1$.
6. Define Contradiction.
7. What is the other name of Recurrence relations.
8. What is the closed form of the expression, $\sum_{k=1}^n K = 1 + 2 + 3 + \dots + n$?
9. Define Null graph.
10. A graph in which every vertex has the same degree is called a _____.
 - a) Complete graph
 - b) Regular graph
 - c) Null graph
 - d) Sub graph

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

- 11.a) If $A = \{1,2,3,4,5\}$ and $B = \{5,6,7\}$ then find $A \cup B$, $A \cap B$, $A - B$, $B - A$.

(OR)

- b) Compute the number of distinct five card hand which can be dealt from a deck of 52 cards.

10AT11

12.a If $A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 2 & 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -2 \\ -1 & 0 \\ 2 & -1 \end{bmatrix}$. Find AB.

(OR)

b) Find the inverse of $A = \begin{bmatrix} 8 & -1 & -3 \\ -5 & 1 & 2 \\ 10 & -1 & -4 \end{bmatrix}$.

- 13.a) Construct the truth table for $(\neg P \wedge Q)$.

(OR)

- b) Verify whether $(P \vee Q) \rightarrow P$ is a tautology.

- 14.a) Solve the recurrence relation defined by $B_0 = 100$ and $B_k = (1.08)B_{k-1}$, for $k \geq 1$.

(OR)

- b) Obtain the recurrence relation for the solution $D(k) = 5.2^k$.

- 15.a) Define the following:

- i) Tree
- ii) Forest
- iii) Spanning tree

(OR)

- b) Define the following:

- i) Weakly connected graph
- ii) Unilaterally connected graph
- iii) Strongly connected graph

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

16. Define the following:

- i) Function
- ii) Identity function
- iii) Inverse function

17. Verify whether the following system is consistent.

$$x + 2y + z = 11; 4x + 6y + 5z = 8; 4x + 4y + 6z = 38.$$

- 18 Find the disjunctive normal form of

$$(p \wedge \neg (q \vee r)) \vee (((p \wedge q) \vee \neg r) \wedge p).$$

19. Find the generating function for the sequence, $\langle 3^0, 3^1, 3^2, \dots, 3^r, \dots \rangle$.

20. Explain Incidence matrix of a digraph with an example.

**OPERATIONS RESEARCH**

Under CBCS – Credit 5

Time: 3 Hours

Max. Marks: 75

SECTION – A**Answer ALL Questions :****(10 × 1 = 10)**

1. In graphical representation the bounded region is known as _____ region.
 - a) Solution
 - b) Feasible Solution
 - c) Basic Solution
 - d) Optimal
2. In the matrix method for solving of LPP number of variables can be _____.
 - a) At least three
 - b) At least two
 - c) not more than three
 - d) None of these
3. A feasible solution of LPP
 - a) Must satisfy all the constraints simultaneously
 - b) Need not satisfy all the constraints, only some of them
 - c) Must be a corner point of the feasible region
 - d) All of the above
4. From the following methods _____ is a method to obtain initial solution to transportation problem.
 - a) North – West
 - b) Simplex
 - c) Hungarian
 - d) Newton Raphson
5. F7 for a given solution, a slack variable is equal to zero, then
 - a) the solution is optimal
 - b) the solution is infeasible
 - c) there exist no solution
 - d) None of these

Say True or False:-

6. Operations Research which is very powerful tool for operations.
7. Any column (or) row of a simplex table is called a vector.
8. In simplex method we add surplus variables in the case of “=”.
9. Dual of the dual is primal.
10. A feasible solution is called a basic feasible solution if the number of non-negative allocation is equal to $m + n - 1$.

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

11.a) List the Applications of operation research.

(OR)

b) List the characteristics of good model.

12.a) A firm manufactures two types of products *A* and *B* and sells them at a profit of Rs.2 on type *A* and Rs.3 on type *B*. Each product is processed on two machines m_1 and m_2 . Type *A* requires 1 minute of processing time on m_1 and 2 minutes on m_2 . Type *B* requires 1 minute on m_1 and 1 minute on m_2 . Machine m_1 is available for not more than 6 hours 40 minutes while machine m_2 is available for 10 hours during any working day. Formulate the problems as LPP so as to maximize the profit.

(OR)

b) List the steps for solving the graphical method in LPP.

13.a) Use simplex method to solve the LPP

$$\text{Max. } Z = 4x_1 + 10x_2$$

$$\text{Subject to } 2x_1 + x_2 \leq 50$$

$$2x_1 + 5x_2 \leq 100$$

$$2x_1 + 3x_2 \leq 90 \text{ and } x_1, x_2 \geq 0$$

(OR)

b) Solve the following

$$\text{Max. } Z = 15x_1 + 6x_2 + 9x_3 + 2x_4$$

$$\text{Subject to } 2x_1 + x_2 + 5x_3 + 6x_4 \leq 20$$

$$3x_1 + x_2 + 3x_3 + 25x_4 \leq 24$$

$$7x_1 + x_4 \leq 70, \quad x_1, x_2, x_3, x_4 \geq 0$$

14.a) Consider the problem of Assigning five jobs to five persons.

The assignment cost are given as follows.

		Job				
		1	2	3	4	5
Person	A	8	4	2	6	1
	B	0	9	5	5	4
	C	3	8	9	2	6
	D	4	3	1	0	3
	E	9	5	8	9	5

(OR)

b) Consider the problem of Assigning five jobs to the Machines.

The assignment cost are given as follows.

		Job				
		1	2	3	4	5
Machines	A	10	3	3	2	8
	B	9	7	8	2	7
	C	7	5	6	2	4
	D	3	5	8	2	4
	E	9	10	9	6	10

15.a) Find the initial basic feasible solution for the following transportation problem by Least cost method.

		To				Supply
		1	2	1	4	
From		3	3	2	1	50
		4	2	5	9	20
	Demand	20	40	30	10	

(OR)

b) Find the solution for the following Transportation problem using North – West Corner Rule.

1	2	6	7
0	4	2	12
3	1	5	11
10	10	10	

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

16. Explain classification of OR models.

17. Solve the following LPP by the graphical method

$$\text{Max. } Z = 3x_1 + 2x_2$$

$$\text{Subject to } -2x_1 + x_2 \leq 1$$

$$x_1 \leq 2$$

$$x_1 + x_2 \leq 3 \text{ and } x_1, x_2 \geq 0$$

18. Use Big – M method to solve

$$\text{Minimize } Z = 4x_1 + 3x_2$$

$$\text{Subject to } 2x_1 + x_2 \geq 10$$

$$-3x_1 + 2x_2 \leq 6$$

$$x_1 + x_2 \geq 6 \text{ and } x_1, x_2 \geq 0$$

19. Solve the following Assignment problem.

	M ₁	M ₂	M ₃	M ₄	M ₅
J ₁	9	22	58	11	19
J ₂	43	78	72	50	63
J ₃	41	28	91	37	45
J ₄	74	42	27	49	39
J ₅	36	11	57	22	25

20. Solve the following Transportation problem using Vogel's Approximation method.

		To				Supply
From		10	20	5	7	10
		13	9	12	8	20
		4	5	7	9	30
		14	7	1	0	40
		3	12	5	19	50
Demand		60	60	20	10	



**PROGRAMMING IN C**

Under CBCS – Credit 4

Time: **3** HoursMax. Marks: **75****SECTION – A****Answer ALL Questions :****(10 × 1 = 10)**

1. What is short int in C programming?
 - a) Basic datatype of C
 - b) Qualifier
 - c) short is the qualifier and int is the basic datatype
 - d) All of the mentioned
2. By default a real number is treated as a
 - a) float
 - b) double
 - c) long double
 - d) far double
3. What is right way to Initialize array?
 - a) $\text{int } num[6] = \{2, 4, 12, 5, 45, 5\};$
 - b) $\text{int } n\{ \} = \{2, 4, 12, 5, 45, 5\};$
 - c) $\text{int } n\{6\} = \{2, 4, 12\};$
 - d) $\text{int } n(6) = \{2, 4, 12, 5, 45, 5\};$
4. If the two strings are identical, then strcmp() function returns
 - a) 1
 - b) 0
 - c) - 1
 - d) true
5. Any C program
 - a) Must contain at least one function
 - b) Need not contain any function
 - c) Needs input data
 - d) None of the above
6. The recursive functions are executed in a _____.
 - a) Parallel order
 - b) First In First Out order
 - c) Last In First Out order
 - d) none

7. Which of the following operation is illegal in structures?

- a) Typecasting of structure
- b) Pointer to a variable of same structure
- c) Dynamic allocation of memory for structure
- d) All of the mentioned

8. What is the similarity between a structure, union and enumeration?

- a) All of them let you define new values
- b) All of them let you define new data types
- c) All of them let you define new pointers
- d) All of them let you define new structures

9. Prior to using a pointer variable

- a) It should be declared
- b) It should be initialized
- c) It should be both declared and initialized
- d) None of these

10. A pointer is

- a) A keyword used to create variables
- b) A variable that stores address of an instruction
- c) A variable that stores address of other variable
- d) All of the above

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

11.a) Write about C Keywords and identifiers.

(OR)

b) Differentiate while loop and Do while loop.

12.a) Explain about the operations in array.

(OR)

b) List out any five string operations.

13.a) Brief about the nesting of functions.

(OR)

b) State the use of user defined functions in C.

14.a) Discuss about Bit fields?

(OR)

b) Briefly explain about Unions.

15.a) Explain about pointer expressions.

(OR)

b) Write short notes on File management in C.

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

16. Explain various types of operators in C.

17. Explain the two dimensional arrays with illustration.

18. What are the different types of functions? Explain in detail.

19. Discuss about structure and its operations.

20. Explain about the operations of pointers in detail with illustration.



**DIGITAL ELECTRONICS**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A**Answer ALL Questions :****(10 × 1 = 10)**

1. A digital circuit having one or more input signals but only one output signal is called a _____.
a) Gate b) Register c) Flip flop d) Multiplexer
2. The value of $A+0=$ _____.
a) A b) 1 c) 0 d) A'
3. A _____ is a circuit with many inputs but only one output.
a) Multiplexer b) Data selector
c) Demultiplexer d) both (a) & (b)
4. _____ Flip flop circuit that needs only a single data input.
a) RS b) JK c) JK Master slave d) D
5. Asynchronous counter sometimes called as _____.
a) Ripple counter b) Ring counter
c) Parallel counter d) All of these
6. Draw the symbol for NOT and OR gates.
7. Write any one Commutative law.
8. What is Demultiplexer?
9. What is D-flip flop?
10. Write the types of register.

SECTION – B

Answer ALL Questions : (5 × 7 = 35)

11.a) Briefly discuss about Hexadecimal Number with an example

(OR)

b) Write short notes on NAND gate with neat diagram.

12.a) Simplify $Y = (A+B) (A' (B'+C'))' + A' (B+C)$ the equation based on De Morgan's theorem

(OR)

b) Give short notes on sum-of-product method.

13.a) Discuss on seven segment decoder with the 7446 and 7448 decoder driver diagram.

(OR)

b) Illustrate the binary Addition and Subtraction number representation.

14.a) Discuss on clocked RS Flip flop with logic circuit and truth tables.

(OR)

b) Write short notes on 555 Timer Astable with neat diagram.

15.a) Briefly explain about Ripple Counter with truth table and waveform.

(OR)

b) Give short notes on Serial In-Serial Out register with neat diagram.

SECTION – C

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

16. Write about the following gates with logic circuit and pinout diagram.

i) AND ii) OR iii) NOT

17. Explain in detail about K-Map and its pairs, quads and octets examples.

18. Explain about 16 to 1 TTL of 74150 model Multiplexer.

19. Explain the following

i) Edge Triggered D flip flop
ii) JK Master slave flip flop

20. Explain in detail about Serial In-Parallel Out (54/74166) register with neat logic diagram.



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B.Sc.,(CS) Degree (Semester) Examinations, November -2016

Part – III : Core Subject : Third Semester : Paper – 1

COMPUTER ORGANIZATION

Under CBCS – Credit 5

Time: **3** Hours

Max. Marks: **75**

SECTION – A

Answer ALL Questions : (10 × 1 = 10)

- _____ is concerned with the hardware design of the computer.
 - Computer Design
 - Computer Architecture
 - Computer Organization
 - Computer Hardware
- _____ places the operator before the operands.
 - Infix
 - Prefix
 - Postfix
 - Suffix
- $.5372400 \times 10^2 + .1580000 \times 10 - 1 =$
 - .5373980
 - .69522400
 - .5388200
 - .5530400
- ASCII is a _____ bit code.
 - 8
 - 7
 - 5
 - 6
- Devices that provide backup storage are called.
 - Associative memory
 - Cache memory
 - Auxiliary memory
 - Virtual memory
- What is a program.
- Convert the expression $A*B+C*D$ into reverse polish notation.
- What is an Algorithm?
- What is Peripheral?
- Expand CAM.

SECTION – B

Answer ALL Questions : (5 × 7 = 35)

- 11.a) Discuss about first pass of an Assembler.
(OR)
b) Write short notes on.
 - Compiler (2)
 - Interpreter (2)
 - Operating system (1)
 - Machine language (2)
- 12.a) Discuss about instruction formats with example.
(OR)
b) Discuss about addressing modes in detail.
- 13.a) Discuss about addition and subtraction with signed 2's complement data?
(OR)
b) Discuss about binary division with example.
- 14.a) Explain about IOP.
(OR)
b) Explain about input-output interface in detail.
- 15.a) Discuss about virtual memory.
(OR)
b) Discuss about Auxiliary memory.

SECTION – C

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

16. Draw and explain the flow chart for second pass of an Assembler.
17. Discuss about stack Organization.
18. Discuss about booth multiplication Algorithm.
19. Explain about DMA.
20. Discuss about cache memory.



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B.Sc.,(CS) Degree (Semester) Examinations, November -2016

Part – III : Core Subject : Third Semester : Paper - II

OBJECT ORIENTED PROGRAMMING WITH C++

Under CBCS – Credit 4

Time: **3** Hours

Max. Marks: **75**

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

- Which of the following provides the idea of reusability?
 - Data Abstraction
 - Inheritance
 - Polymorphism
 - Dynamic Binding
- Wrapping up of data and functions into a single unit is _____.
 - Encapsulation
 - Inheritance
 - Information hiding
 - Polymorphism
- Function declaration is made through _____.
 - Function name
 - Function prototype
 - Function call
 - Function template
- _____ function eliminates the cost of calls to simple function.
 - Calling
 - Inline
 - Called
 - Main
- _____ enables an object to initialize itself when it is created.
 - Class
 - Object
 - Derived class
 - Constructor
- Friend function requires _____ numbers of arguments to be exactly passed to it.
 - One
 - Many
 - Two
 - Any
- _____ is the default visibility mode.
 - Virtual
 - Public
 - Combined
 - Private
- The mechanism of deriving a class from another 'derived class' is called as _____ inheritance.
 - Single
 - Multiple
 - Multilevel
 - Base
- Pointer is a _____ data type.
 - Derived
 - User defined
 - Enumerated
 - Mixed

10. The source stream that provides data to the program is called as _____ stream.

a) Input b) Output c) Source d) Data

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

- 11.a) What are the Application of OOPs.
(OR)
- b) Discuss about the Operators in C++.
- 12.a) What is the use of Inline function? Explain with an example?
(OR)
- b) Write a C++ program to illustrate the function overloading concept?
- 13.a) Explain the following.
- Copy Constructor
 - Multiple Constructors
- (OR)
- b) Write a C++ program to overload unary operator.
- 14.a) Write about Single Inheritance.
(OR)
- b) Write about Multiple Inheritance.
- 15.a) List out the rules for virtual functions.
(OR)
- b) Discuss about the following functions.
- put()
 - Get()
 - getline()
 - write()

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

16. Discuss about the data types in C++.
17. Explain the following.
- Arrays of objects
 - Default arguments.
18. Explain the concept "Binary Operator Overloading".
19. Explain the following
- Virtual base class
 - Hybrid inheritance
20. Explain about the formatted console I/O operations.


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B.Sc. Comp. Sci. Degree (Semester) Examinations, November 2016

Part – III : Core Subject : Third Semester : Paper – III

DATA STRUCTURE & ALGORITHM

Under CBCS – Credit 4

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- Which data structure allows deleting data elements from and inserting at rear?
 - Stacks
 - Queues
 - Dequeues
 - Binary search tree
- The operation of processing each element in the list is known as
 - Sorting
 - Merging
 - Inserting
 - Traversal
- Which of the following statement about binary tree is CORRECT?
 - Every binary tree is either complete or full
 - Every complete binary tree is also a full binary tree
 - Every full binary tree is also a complete binary tree
 - A binary tree cannot be both complete and full
- In a graph if $e = [u, v]$, Then u and v are called _____.
 - End points of e
 - Adjacent nodes
 - Neighbours
 - All of the above
- Which of the following sorting algorithm is of divide and conquer type?
 - Bubble sort
 - Insertion sort
 - Merge sort
 - Selection sort
- Define a stack.
- State the difference between queues and linked lists.
- Define a tree.
- What is a directed graph?
- State the working principle of Merge sort.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- a) List out the basic operations that can be performed on a stack.

(OR)

- Explain about priority queue.

- a) State the difference between arrays and linked lists.

(OR)

- List out the advantages of using a linked list.

- a) State the properties of a binary tree.

(OR)

- What are the tasks performed during inorder traversal?

Explain with example.

- a) Discuss about DFS and BFS?

(OR)

- Briefly explain about minimum spanning tree.

- a) Explain the working of bubble sort.

(OR)

- Write short notes on decision trees.

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

- Explain various types of queues with examples.
- Explain the basic operations carried out in a linked list with illustration.
- What are the different binary tree traversal techniques? Explain in detail.
- Discuss about Prim's algorithm in constructing minimum spanning tree.
- Explain about
 - Insertion sort
 - selection sort
 - Quick sort
 - Heap sort





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B.Sc.,(CS) Degree (Semester) Examinations, November -2016

Part – III : Core Subject : First Semester : Paper - 1

COMPUTER NETWORKS

Under CBCS – Credit 4

Time: **3** Hours

Max. Marks: **75**

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

1. The _____ layer is transmitting raw bits over a communication channel.
a) Physical b) Application c) Network d) Transport
2. The number of samples per second is measured in _____ rate.
a) Band b) Bit c) Modem d) All of these
3. The data link layer on the receiving end removes the escape byte before the data are given to network layer is called _____.
a) Byte stuffing b) Character stuffing
c) Flag byte d) both (a) & (b)
4. TCP service is obtained by both the sender and receiver creating end points is called _____.
a) Urgent data b) Port c) Segment d) Socket
5. A _____ is a character for character or bit for bit transformation.
a) Cipher b) key c) plaintext d) All of these
6. TCP stands for _____.
7. List out any two Guided Transformation Media.
8. Define Hamming distance error correcting codes.
9. RPC stands for _____.
10. HTTP stands for _____.

SECTION – B

Answer ALL Questions : (5 × 7 = 35)

11.a) Write short notes on following Network hardware.

- i) LAN ii) MAN iii) WAN

(OR)

b) Discuss on following Network software.

- i) Protocol Hierarchies ii) Service Primitives

12.a) Give brief notes on.

i) Structure of the Telephone

ii) Modems

(OR)

b) Briefly explain about Fourier analysis and bandwidth limited signal with neat diagram?

13.a) Give short notes on polynomial error detecting codes with an algorithm ?

(OR)

b) Write short notes on.

i) A Simplex Stop and Wait Protocol

ii) An unrestricted Simplex Protocol

14.a) Discuss on routing algorithm and shortest path routing with neat graph.

(OR)

b) Write short notes on RPC with neat diagram.

15.a) Write short notes on MIME with an example.

(OR)

b) Discuss on HTML tags with an example.

SECTION – C

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

16. Explain the functions of the OSI Reference Model with neat diagram.

17. Explain in detail about Fiber optics cable and coaxial cable with neat diagram

18. Explain in detail about design issues of data link layer with neat diagram.

19. Explain the following TCP

i) Segment Header

ii) Connection Establishment

iii) Connection release

20. What is Cryptography? Explain on

i) Substitution Ciphers

ii) Transposition Ciphers

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B.Sc.,(CS) Degree (Semester) Examinations, November -2016

Part – III : Core Subject : First Semester : Paper - II

JAVA PROGRAMMING

Under CBCS – Credit 4

Time: **3** HoursMax. Marks: **75****SECTION – A****Answer ALL Questions :****(10 × 1 = 10)**

- The conditional operator has _____ operators.
a) One b) Two c) Three d) Eight
- _____ is one of the unconditional branching statements in JAVA.
a) Goto b) While-do c) do-while d) Continue
- The _____ variables are referred to as class variables.
a) Dynamic b) Public c) Private d) Static
- _____ enables an object to initialize itself when it is created
a) Overloading b) Constructor c) Create d) Enable
- _____ is the process by which objects of one class acquire the properties of objects of another class.
a) Inheritance b) Constructor c) Class d) Overloading
- _____ have same name but different parameter lists and different definitions.
a) Polymorphism b) Overriding
c) Information Hiding d) Method overloading
- A new thread begins its life cycle in the _____ state.
a) Runnable b) New c) Waiting d) Executing
- The ability to execute multiple programs simultaneously in JAVA is called as _____.
a) Parallel processing b) Multithreading
c) Interfacing d) Applets
- The _____ is used for writing data to a destination
a) Monitor b) File Output Stream
c) Input Stream d) Output Stream
- _____ class is a direct subclass of panel class.
a) Super b) Private c) Applet d) Interface– B

SECTION – B**Answer ALL Questions :****(5 × 7 = 35)**

- Write about the different types of operators in JAVA.
(OR)
b) Write about the various loop control statements in JAVA.
- What are constructors in Java? What are its special properties?
(OR)
b) Explain how arrays can be declared and initialized in JAVA? Give an example?
- Write about package handling in JAVA?
(OR)
b) What are the usage of interfaces in JAVA. Discuss with an example.
- Write a JAVA program to illustrate the concept 'Multi Threading'.
(OR)
b) Discuss how JAVA handles exceptions.
- What are applets? Give the life cycle of it.
(OR)
b) Write a JAVA program to Read and to Write a student file.

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

- Summarize the rules to be followed to use switch - case statement and write a Java program to calculate the grade of a student by using Switch - case statement.
- Explain about the overloading of methods in JAVA.
- What are the different types of Inheritance in JAVA?.Explain.
- Write about the life cycle of a Thread with suitable examples.
- Discuss about sockets in JAVA.



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Part – III : Elective Subject : Fifth Semester : Paper – 1

SOFTWARE ENGINEERING

Under CBCS – Credit 5

Time: **3** Hours

Max. Marks: **75**

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

1. _____ is used to denote an individual who is concerned with the details of implementing, packaging and modifying algorithms and data structures written in particular program.
a) Software engineer b) Programmer
c) C developer d) Customer
2. Which one of the following is not software cost estimation technique.
a) Expert judgment b) Delphi cost estimation
c) Work break down structure d) Modularity
3. _____ is concerned with specifying how the product will provide the required features
a) Software analysis b) Software design
c) Software Implementation d) Software Maintenance
4. _____ systems consist of well defined, manageable units with well defined interfaces among the units.
a) Module b) Software c) Hardware d) System
5. _____ activities invoke making enhancements to software products, adapting products to new environments and correcting problems.
a) Analysis b) Maintenance
c) Design d) Implementation
6. Define software engineering.
7. What is bottom up cost ?

8. What is data dictionary?

9. What is internal design?

10. What is verification?

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

11.a) What are the various project size categories? Explain.

(OR)

b) Discuss about phased life cycle model in detail.

12.a Explain about COCOMO model.

(OR)

b) Discuss about WBS.

13.a) Discuss about PSL/PSA in detail ?

(OR)

b) Write the format of a software requirements specification.

14.a) Discuss about coupling and cohesion.

(OR)

b) Explain about Design notations.

15.a) Discuss about system testing in detail.

(OR)

b) Discuss about Configuration management.

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

16. Explain about quality and productivity factors.

17. Discuss about software cost factors in detail.

18 Explain about formal specification techniques.

19. Discuss about fundamental design concepts in detail.

20. Explain about unit testing and debugging.



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Affiliated to Madurai Kamaraj University

B.A. / B.Sc. Degree (Semester) Examinations, November 2016

Part – IV : Non Major Elective Subject : First Semester : Paper – I

INTRODUCTION TO INFORMATION TECHNOLOGY

Under CBCS – Credit 2

Time: 2 Hours

Maximum Marks: 75

SECTION – A

Answer ALL Questions:

(10 × 1 = 10)

- Which software used for editing a photo?
a) Notepad b) MS-Word c) Photoshop d) none
- What is the Expansion of CPU?
a) Control process unit b) central process unit c) count per unit d) none of the above
- A collection of 4 bit is called _____.
a) Nibble b) byte c) KB d) GB
- 1024 Kb of memory is equivalent to _____.
a) 1GB b) 1MB c) 8 byte d) 1TB
- What is the binary value of decimal number 10?
a) 1010 b) 1101 c) 0101 d) 1111
- Which one is the example for input device?
a) Printer b) monitor c) Projector d) Keyboard
- Which one is the example for Tamil font?
a) azhaki b) Times new roman c) Arial d) sanserif
- Which one the following is OS?
a) Printer b) Keyboard c) CPU d) Windows XP
- Website is a collection of WebPages. (True / False)
- WWW stands for
a) World wide web b) wide wide web c) wire wide web d) no expansion

SECTION – B

Answer ALL Questions:

(4 × 10 = 40)

- a) What is the use of it in education? Explain. (OR)
b) How is IT used in business and industries?
- a) Explain about CPU? (OR)
b) Explain about different types of printers?
- a) What is keyboard discussed about briefly? (OR)
b) Give a short description about RAM/ROM.
- a) How to browse the web? (OR)
b) Explain the following things i) Web browser ii) website iii) webpage

SECTION – C

Answer Any TWO Questions:

(2 × 12½ = 25)

- Explain the usage of IT in different field.
- Discuss about the commonly used peripheral devices in computer.
- What is software? Explain with different types of software.





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B.Sc. Computer Science Degree (Semester) Examinations, November 2016

Part – IV : Skill Based Subject : Third Semester : Paper – I

SYSTEM SOFTWARE

Under CBCS – Credit 2

Time: 2 Hours

Maximum Marks: 75

SECTION – A

Answer ALL Questions:

(10 × 1 = 10)

- We can write programs in a high-level language, using _____ to create and modify the program.
a) text editor b) loader c) linker d) debugger
- An object program that contains the information necessary to perform modification is called a _____ program.
a) source b) re-locatable c) executable d) assembly
- Parsing is also called as _____.
a) lexical b) grammar c) syntactic analysis d) scanning
- When a computer is first turned on, a _____ is executed.
a) loader b) linker c) absolute loader d) bootstrap loader
- A computer program that allows a user to create and revise a target document is called as _____.
a) an interactive editor b) text editor c) DBMS d) compiler
- Executing _____ instruction generates an interrupt.
- State any 4 assembler directives.
- What is loader?
- What are the fundamental building blocks of the language?
- API** stands for _____.

SECTION – B

Answer ALL Questions:

(4 × 10 = 40)

- a) Explain about two pass assembler. (OR)
b) Briefly discuss on Interpreters.
- a) Explain about Lexical analysis briefly. (OR)
b) Describe the characteristics of assembly language.
- a) Describe about the storage allocation process. (OR)
b) Explain Linking and relocation.
- a) Briefly discuss about static and dynamic memory allocation. (OR)
b) Explain about the overview of compilation process in detail.

SECTION – C

Answer Any TWO Questions:

(2 × 12½ = 25)

- Explain the evolution of system software.
- Discuss about assembly language.
- Explain the different kinds of text editors in detail.

