**B-2177**

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**SUBJECT CODE NO:- B-2177**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. F.Y (Sem.-II) Examination OCT/NOV 2019**
**Computer Science Paper-IV CS04**
**Operating System-I**

**[Time: 1:30 Hours]** **[Max. Marks:50]**

Please check whether you have got the right question paper.

N.B i) Attempt all Question
ii) Illustrate your answers with suitable labeled diagram.

Section A

Q.1 a) What is operating system? Explain function of operating system 10
b) Explain the concept of process with suitable example. 10

**(OR)**

a) What is software? Explain classification of software. 10
b) Explain characteristics of modern operating system. 10

Q.2 a) Explain any four types of operating system. 10
b) What is deadlock? Explain concept of deadlock. 10

**(OR)**

Write short notes on any four of the following. 20
a) Semaphores
b) First-come-first-served scheduling
c) Round robin scheduling
d) Segmentation
e) Paging
f) Logical VS Physical address space

Q.3 Multiple Choice Question 10

1) PCB means_____
   a) Program control block
   b) Process control block
   c) Process communication block
   d) Print cancel box
2) Super computer typically employ_____
   a) Real time operating system
   b) Multiprocessor operating system
   c) Personal computer operating system
   d) None of the above
3) FIFO scheduling is_____
   a) Preemptive
   b) Non preemptive
   c) Deadline
   d) None of above

4) The primary job of the operating system of a computer is to _____
   a) Command resources
   b) Manage resources
   c) Provide utilities
   d) Be user friendly
5) _____helps to analyze ,configure ,optimize and maintain the computer
   a) Utility software
   b) Program
   c) Hardware
   d) Application software
6) The address generated by the CPU is called_____
   a) Logical address
   b) Physical address
   c) Login address
   d) Loss address
7) _____is a technique that allows the execution of processes that may not be completely in the memory.
   a) CPU
   b) Main memory
   c) Virtual memory
   d) None of above
8) Mouse, keyboard, screen are _____devices.
   a) Human interface devices
   b) Storage devices
   c) Transmission devices
   d) None of the above
9) _____ Of an operating system provides many service related to I/O
   a) The Kernel
   b) Control
   c) Memory
   d) None of the above
10) _____ a set of I/O request is a function of the I/O subsystem.
   a) Polling
   b) Timer
   c) Scheduling
   d) None Of the above

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**SUBJECT CODE NO:- B-2178**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. F.Y (Sem.-II) Examination OCT/NOV 2019**
**Computer Science Paper-V CS05**
**Programming in C**

**[Time: 1:30 Hours]** **[Max. Marks:50]**

Please check whether you have got the right question paper.

N.B i) Attempt all questions.

Q.1 a) Explain arithmetic and relational operators with example. 10

b) Explain about basic data types in C language with example. 10

**(OR)**

a) Explain the structure of 'C' program in detail 10

b) Explain the use of 'Break' Statement? Write a program in C to check whether a number is prime or
Not using break statement. 10

Q.2 a) Explain about actual arguments and formal arguments in funcations.what is the difference between these arguments ? Explain the rules to call a function in a main function. 10

b) Give the difference between 'While loop' and 'do while loop' with example. 10

**(OR)**

Write short notes on (Any Four) 20

a) Features of 'C'
b) Precedence of operators.
c) C keywords
d) Nested if statement
e) Switch statement
f) Mathematical functions

Q.3 1) The size of signed integer is _____bytes 10

A. 4
B. 8
C. 2
D. 10

2) A function to be called must be ended with a_____

A. .
B. ?
C. ;
D. None of the above

3) The _____statement helps immediate exit form any part of the loop.
   A. Break
   B. Continue
   C. Exit
   D. All of the above

4) Which among the following is odd one out?
   A. Printf
   B. Fprintf
   C. Put char
   D. Scanf
5) All keyword in C are in_____
   A. Lower case letters
   B. Upper case letters
   C. Camel case letters
   D. None of the above
6) Which of the following is not a valid C variable name?
   A. int number;
   B. float number;
   C. int variable-count;
   D. int $main;
7) Size of the array need not be specified, when_____
   A. Initialization is part of definition
   B. It is declaration
   C. It is formal parameter
   D. All of the these
8) C programming language by itself provides_____
   A. Input facility
   B. Output facility
   C. Both input and output facility
   D. No input and output facility
9) X-=y+1; means
   A. x=x-y+1
   B. x=-x-y-1
   C. x=-x+y+1
   D. x=x-y-1
10) Printf (“%c”,100);
   A. Prints 100
   B. Prints ASCII equivalent of 100
   C. Prints garbage value
   D. None of the above

**B-2038**

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**SUBJECT CODE NO:- B-2038**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2019**
**Computer Science Paper-II CS02**
**Digital Electronics**

**[Time: 1:30 Hours]** **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B
1) Attempt all questions.
2) Illustrate your answer with suitable diagram.

Q.1
a) What is gate? Explain AND & NAND gates with logical symbol. 10
b) Explain full subtractor with suitable diagram. 10

OR

c) What is k-map? Explain k-map for 4 variables. 10
d) Explain multiplexer with suitable diagram. 10

Q.2
a) Explain D & T-flip-flops with logical symbol. 10
b) Explain Asynchronous counter with suitable diagram. 10

OR

c) Write short notes on any four of the following. Each carry 5 marks. 20
1) Hexadecimal number system
2) Binary parallel Adder
3) JK flip-flop
4) Parallel-in Parallel-out shift register
5) Demultiplexer
6) Ring counter

Q.3 Fill in the blank. 10
1) $(1000)_2 = (\text{------})_{10}$
2) $(BC)_{16} = (\text{------})_2$
3) $A.B + A.C = A.(B + C)$ is called law of --------
4) $A.\overline{A} = 0$ & $A + \overline{A} = 1$ are called laws of ----------
5) $(110100)_2 = (\text{------})_8$
6) 

is logical symbol of -------- gate?
7) $(12)_{10} = (\text{------})_2$
8) $(1001)_2 + (1010)_2 = (\text{------})_2$
9) 2's complement of $(1011)_2$ is ---------
10) In two input Ex-OR gate if both input is '1' then output is ----------

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**SUBJECT CODE NO:- B-2037**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2019**

**Computer Science Paper-I CS01**

**Computer Fundamentals**

**[Time: 1:30 Hours]** **[Max.Marks:50]**

Please check whether you have got the right question paper.

N.B
1) Attempt all questions.
2) Illustrate your answer with suitable labeled diagram.

Q.1 a) Explain Basic organizations of computer with the help of diagram. 10
b) Explain concept of interpreter and compiler. 10

OR

a) Explain assembly language and Low level language. 10
b) What is operating system? Explain Time sharing o. s. 10

Q.2 a) Explain structure of instruction in processors. 10
b) What is algorithm? Explain with suitable example. List out features of algorithm. 10

OR

Write short notes on (any Four) 20
a) Fifth generations computers
b) Flowcharts symbols
c) ROM
d) Batch O.S
e) Super computer
f) OMR

Q.3 Multiple choice questions 10

1) The speed of computer is generally measured in terms of _____.
a) FLOPS b) kg c) PLOPS d) DOPS

2) ALU means _____.
a) Arithmetic logic unit b) Arithmetic line unit
c) Auto line unit d) None of these

3) Group of 8 bit is referred as_____.
a) Bit b) Byte c) Kilo byte d) Mega byte

4) In first generation of computer ___were used.
a) Transistor b) IC c) Processor d) Vacuum tubes

5) _____is not primary memory.
   a) ROM b) EPROM c) PROM d) CD-ROM

6) 1 GB means _____.
   a) 1024 KB b) 1024 MB
   c) 1024 bytes ; d) None of these

7) Diagrametic representation of program is_____.
   a) Algorithm b) Flow chart
   c) Process d) Image

8) _____is an example of single user O.S.
   a) Unix b) Linux c) DOS d) Windows

9) Language written in terms of zeros and ones is called_____.
   a) H.L.L b) Assembly language
   c) L.L.L d) Middle level language

10) Software which converts H.L.L. into L.L.L is called_____.
   a) Assembler b) Compiler
   c) Interpreter d) Linker

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**SUBJECT CODE NO:- B-2181**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. S.Y (Sem.-IV) Examination OCT/NOV 2019**
**Computer Science CS011**
**Programming in C++**

**[Time: 1:30 Minutes]** **[Max.Marks:50]**

Please check whether you have got the right question paper.

**N.B**
1. Attempt all questions
2. Illustrate answer with suitable diagram

**Q.1**
a) Describe inline function & its characteristics. 10
b) Write a program in C++ to display all the ODD numbers between 1 to 100 10

**OR**

a) What is function overloading? Explain with suitable example. 10
b) What is reference variable? Explain return by reference concept 10

**Q.2**
a) Describe friend function with suitable example 10
b) What are the manipulators in C++? Explain 10

**OR**

Write short notes on **(any four )** 20
i) constructors
ii) overloading unary operator
iii) Encapsulation
iv) Function prototype
v) Data Abstraction
vi) public & private data members

**Q.3** **Multiple choice questions** 10

1) cin is an ----------.
a) Class b) Object c) Package d) Namespace

2) ---------- is not a correct variable type in C++.
a) float b) real c) int d) double

3) --------- operator is used as logical AND.
a) & b) :: c) && d) AND

4) Default constructor has ---------- number of arguments.
a) No arguments b) One c) Two d) Three

5) Reusability of code in C++ is achieved by using-------.
a) Polymorphism b) Inheritance c) Encapsulation d) None of above

6) ---------- header file is required for input/ output operation in C++.
   a) stream.h b) istream.h c) ostream.h d) iostream.h

7) In CPP, members of class are ---------- by default.
   a) public b) private c) protected d) static

8) In C++ every instruction ends with --------.
   a) semicolon (;) b) fullstop (.) c) comma (,) d) slash (/)

9) In C++ inline functions are expanded during ----------.
   a) runtime b) compile time c) debug time d) none of above

10) ----- is called as scope resolution operator .
   a) : b) → c) & d) ::

**B-2182**

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**SUBJECT CODE NO:- B-2182**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. S.Y (Sem.-IV) Examination OCT/NOV 2019**
**Computer Science CS012**
**Database Management and System Using SQL**

**[Time: 1:30 Hours]** **[Max.Marks:50]**

Please check whether you have got the right question paper.

**N.B** 1) Attempt all questions.
2) Illustrate your answers with suitable diagrams.

**Q.1** a) Explain three level architecture of DBMS. 10
b) Explain Network data model. 10

**OR**

a) Explain DBMS facilities. 10
b) Explain types of entities. 10

**Q.2** a) Explain any five relational algebra queries. 10
b) Explain components of DBMS. 10

**OR**

Write short note on **(any four)** 20
a) SQL plus
b) Inner & outer Join
c) Database anomalies
d) Binary & Ternary relationship
e) Data association
f) Records & files

**Q.3 Multiple Choice Questions:** 10

1. SQL long form is ---------
   a) System query language b) Structural query language
   c) System question language d) Structure question language

2. Cartesian product in relational algebra is
   a) Unary operator b) Not defined
   c) Ternary operator d) Binary operator

3. Record is
   a) Collection of fields b) data file c) data bank d) menu

4. The full form of DDL is
   a) Dynamic Data Language
   b) Data Defination Language
   c) Data Driven Language
   d) Detailed Data Language

5. In ER diagram relations all expressed as
   a) Ellipse b) Rectangle c) Diamond d) line

6. In the architecture of DBMS external level is a
   a) Physical level
   b) Logical level
   c) Conceptual level
   d) View level

7. An entity set does not have sufficient attributes to form a primary key is a
   a) Strong entity set
   b) Weak entity set
   c) Simple entity set
   d) Primary entity set

8. A subschema expresses
   a) Logical view
   b) Physical view
   c) External view
   d) All of the above

9. SET concept is used in
   a) Network model
   b) Hierarchical model
   c) Relational model
   d) None of these

10. The statement in SQL which allows to change the definition of table is
    a) Create b) Alter c) Update d) Select

**B-2041**

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**SUBJECT CODE NO:- B-2041**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. S.Y. (Sem-III) Examination Oct/Nov 2019**
**Computer Science Code - CS07**
**Advance C Programming**

**[Time: 1:30 Hours]** **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B
1) Attempt all questions.
2) Illustrate your answer with suitable example.

Q.1 a) Explain in detail how to access members of structure. 10
b) What is function prototype? What is difference between actual and formal parameters? 10

OR

a) How is pointer initialized in C? Explain valid arithmetic operations applicable on pointers. 10
b) Explain any five data conversion functions in C. 10

Q.2 a) Explain auto and extern storage classes with example. 10
b) What are different file handling functions in C? Explain any two basic operations on files. 10

OR

Write short notes on any four of the following. 20
a) Initgraph ( ) and detectgraph ( )
b) Array of structure
c) Union
d) Types def statement
e) rewind ( )
f) fseek ( )

Q.3 Multiple choice questions. 10

1) The function available to compare two strings is ----------
a) strcat ( ) b) strvpr ( )
c) strcmp ( ) d) strlen ( )

2) the initgraph ( ) function is for ---------
a) Initialization of graph b) Detect graph
c) Define graph d) Draw the graph

3) To generate random number the function is ----------
a) random ( ) b) rnd ( )
c) rd ( ) d) random ()

4) memory allocation function is ----------
   a) malloc ( )
   b) calloc ( )
   c) x alloc ( )
   d) nalloc ( )

5) To draw circle in c the syntax is ----------
   a) circle (x, y, radius)
   b) rectangle (left, top, right, bottom)
   c) ellipse (x, y, start_angle, end_angle, x radius, y radius)
   d) line ($x_1$, $y_1$, $x_2$, $y_2$)

6) The function to read data from the file ----------
   a) fread ( )
   b) fwrite ( )
   c) fopen ( )
   d) fclose ( )

7) The function to upper ( ) is used for ----------
   a) Convert string into uppercase character
   b) Convert string into lowercase character
   c) Concat string
   d) Compare string

8) What is the advantage of # define over const?
   a) Data type is flexible
   b) Can have a pointer
   c) Reduction in the size of program
   d) None of these

9) Which is an indirection operator among the following
   a) &
   b) *
   c) ->
   d) .

10) Which of the following can never be sent by call by value?
   a) Variable
   b) Array
   c) Structures
   d) Both array and structures

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**SUBJECT CODE NO:- B-2042**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. S.Y. (Sem-III) Examination Oct/Nov 2019**
**Computer Science Code -CS08**
**Data Structures**

**[Time: 1:30 Hours]** **[Max.Marks:50]**

Please check whether you have got the right question paper.

N.B
1) All questions are compulsory.
2) Illustrate answer with suitable example.

Q.1
a) Explain linear search with it's algorithm and example. 10
b) Describe recursion using factorial function. 10

OR

c) What is stack? Explain PUSH and POP operations on stack. 10
d) What is infix, polish and reverse polish notation to represent arithmetic expression? Explain in detail. 10

Q.2
a) What is linked list? Explain inserting element in linked list. 10
b) What is queue? Give memory representation of queues. 10

OR

Write short notes (any four) 20
a) Quick sort
b) Entity and attributes
c) Record structure
d) Bubble sort
e) Dequeue
f) Recursion

Q.3 Multiple choice questions. 10

1. ____refers to single unit of values.
   a. Data item b. Database c. Array d. Node

2. An entity always has come_____.
   a. Records b. Attributes c. Data items d. All of the above

3. In stack, elements are added from_____.
   a. Top b. Bottom c. Any position d. None of these

4. Examples of reverse polish notation is_____.
   a. A+B b. +AB c. AB+ d. None of above

5. Accessing and processing each data item exactly once is called_____.
   a. Traversing b. Sorting c. Both (a) & (b) d. None of these

6. _____search algorithm is extremely efficient in searching item in sorted array.
   a. Bubble b. quicksort c. Linear d. Binary

7. In linked list, node is made up of_____.
   a. Info part b. Link field c. Index d. Both (a) & (b)

8. A data structure is_____ model of a particular organization of data.
   a. Logical b. Mathematical c. Random d. Both (a) & (b)

9. _____data structure is suitable for recursion.
   a. Queues b. Linked list c. Stack d. Array

10. In two way linked list, each node is, divided into _____parts.
    a. One b. Two c. Three d. four

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**SUBJECT CODE NO:- B-2039**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019**
**Computer Science Paper CS 015**
**Software Engineering**

**[Time: 1:30 Hours]** **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B 1) Attempt all questions.

Q.1 a) What is software? Explain characteristics of software in detail? 10
b) Explain linear sequential model used in s/w development? 10

OR

a) What is an agile process? Enlist agility principles? 10
b) Differentiate between product and process? 10

Q.2 a) Explain attributes encountered in Web Apps? 10
b) Give communication and planning principles? 10

OR

Short notes on: (any four) 20
a) Software Myths
b) Extreme Programming (XP)
c) Principles that Guide Practice
d) Unified process
e) Deployment principles
f) Specialized process models

Q.3 Multiple choice questions. 10

1) The spiral model was originally proposed by ----------
a) Barry Richards b) Barry Bohem
c) Bill Willams d) Bonds

2) SDLC stands for ----------
a) Software Development Life Cycle
b) Soft Design Life Cycle
c) Software Decode Life Cycle
d) Softonic Design Life Cycle

3) The incremental model combines elements of ---------- and parallel process flows.
a) Linear b) Lexical
c) Lower d) Leveled

4) S/w is ---------- that, when executed provide desired features, function and performance.
   a) Programs
   b) Profile
   c) Prospect
   d) Problem

5) Software Engineering is a ---------- technology.
   a) Level
   b) Layered
   c) Lengthy
   d) Left

6) S/w is ---------- that enables the program to adequately manipulate information.
   a) Data format
   b) Data structure
   c) Design structure
   d) Decode instruction

7) S/w is developed or engineered; it is not ---------- in the classical sense.
   a) Maintain
   b) Manufactured
   c) Modeled
   d) Master

8) The foundation for s/w engineering is the ---------- layer.
   a) Product
   b) Program
   c) Process
   d) People

9) Agile software development is based on ---------- development.
   a) Increased
   b) Incremental
   c) Interrupted
   d) Interested

10) The waterfall model sometimes called the ---------- life cycle model.
   a) Core
   b) Classic
   c) Code
   d) Craft

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**SUBJECT CODE NO:- B-2040**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019**
**Computer Science Paper- CS- 016**
**Web Designing**

**[Time: 1:30 Hours]** **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B 1) All questions are compulsory.

Q.1 a) What is Java Script? Explain inline java script and external java script? 10
b) What is HTML5? Explain how to create an HTML document? 10

OR

a) Explain array in java script and types of array with methods? 10
b) What is CSS3? Explain CSS properties? 10

Q.2 a) Explain process of adding and working of tables in HTML5 docs? 10
b) What are java script variables? Explain operator and its precedence in java script. 10

OR

Short notes on: (any four) 20
a) Adding images to HTML doc.
b) Inline frames
c) Embedding plug-in content
d) Windos, keyboard and mouse event
e) DOM in Java script
f) Event Handling in Java script

Q.3 Multiple choice questions. 10

1) Java script is a scripting language created by ----------
a) Newsgroup b) Netscape
c) Nestscape d) Neuroscience

2) ---------- are powerful mechanism for adding styles to web documents
a) Profiles b) Style sheets
c) Style street d) Style group

3) The SRC = "Url" attribute of ---------- tag contains the URL of document to be loaded into the frame.
a) <image> b) <FRAME>
c) <Table> d) <HTML>

4) DHTML combines HTML with ---------- and scripting languages.
   a) CSS
   b) WCS
   c) CSP
   d) DSS

5) The splitting of a page into two or more frames is accomplished with -------- tag.
   a) <Frame>
   b) <Frame Set>
   c) < FRAME SET >
   d) </ FRAME>

6) Java script is object oriented language that allows creation of ---------- web pages.
   a) Interactive
   b) Inner
   c) Irespective
   d) Imager

7) ---------- allows linking with other documents.
   a) HTML
   b) XML
   c) HTOL
   d) XPL

8) HTML accepts .gif and --------- picture formats.
   a) .TPP
   b) .txt
   c) .xls
   d) .jpg

9) HTML supports ---------- different styles or levels of headings.
   a) Six
   b) Seven
   c) Five
   d) Eight

10) The text or an image that provides such linkage is called ----------
   a) Hibernet
   b) Hyperlink
   c) Hot blog
   d) All above

**OR**

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**SUBJECT CODE NO:- B-2040**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019**
**Computer Science Paper- CS- 016**
**VB. Net**

**[Time: 1:30 Hours]** **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N.B
1) All questions are compulsory.
2) All questions carry equal marks.

Q.1 Multiple choice questions. 10

1) In Vb.net data is handled through ---------- which facilitates development of web applications.
   a) DAO b) RDO
   c) ADO d) ADO.NET

2) A GUI -------
   a) Uses buttons, menus and icons b) Should be easy for a user to manipulate
   c) Graphic use interaction d) Both a & b

3) VB.net provides -------- features.
   a) Debugging b) Application deployment
   c) Syntax checking d) All of above

4) ---------- are the standard prefix, for text box.
   a) tb b) txb
   c) tx d) all of above

5) --------- operator has lowest precedence in VB.net.
   a) Await b) Unary identity
   c) XOR d) None

6) ---------- is an entry point method of VB.net program.
   a) Sub main b) Function main
   c) Both a & b d) None

7) ---------- standard prefixes for combo box control.
   a) Cbo b) Co
   c) Cd d) None

8) ---------- operator compares a string against a pattern
   a) IS b) ISNOT
   c) LIKE d) None

9) ---------- loop structure does not supported by VB.net.
   a) Do------ Loop
   b) For ---------- next
   c) do ---------- while
   d) for each ---------- while

10) ---------- property determine whether a control is displayed to the user.
   a) Hide
   b) Show
   c) Visible
   d) Enabled

Q.2 a) Explain with suitable example looping statements in VB.net. 10

b) What is VB.net framework? Explain its features. 10

OR

c) Give difference between CUI and GUI. 10

d) Explain the concept of class and object in VB.net with example. 10

Q.3 a) Explain the comparison operator with example. 10

b) Write a program in VB.net to display the even number from 10 to 20. 10

OR

a) Write short notes on: (any four) 20
   1) Checkbox & Radio Button
   2) Modules
   3) Event
   4) Exception Handling
   5) Splitters