

Reg. No. :

Roll No. : 21013

Sub. Code : GMCS 5 C/
GMSE 5 C

(CBCS) DEGREE EXAMINATION, APRIL 2018.

Fifth Semester

Computer Science/Software Engineering – Main
Major Elective – ASP.NET

(For those who joined in July 2012-2015)

Duration : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

Byte is data type used to store _____
integers

- (a) 0 to 257 (b) 0 to 255
(c) 0 to 256 (d) 0 to 258

Class declared as _____, can be accessed by
code procedures in the current class, or any class
that inherits from this class

- (a) public (b) protected
(c) protected friend (d) friend

3. _____ stores information about an object
- (a) methods (b) action
(c) events (d) properties
4. _____ used to define a class contract
- (a) class (b) constructor
(c) structures (d) interface
5. _____ method transfers the user to another page in your application or a different web site
- (a) change () (b) direct ()
(c) redirect () (d) reload ()
6. _____ method changes an ordinary string into a string with legal URL characters
- (a) URL encode (b) URL decode
(c) URL transfer (d) URL change
7. _____ window automatically displays a variable that visual studio. Net determines as important for the current code statement
- (a) Locals (b) Globals
(c) Autos (d) Watch
8. _____ hot key used to executes the current highlighted line and then pauses
- (a) F5 (b) F6
(c) F7 (d) F8

_____ regular expression character used to refer any digit

- (a) /n (b) /d
(c) \d (d) \s

_____, the link opens in the current frame

- (a) - blank (b) - parent
(c) - self (d) - top

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

- (a) Write short notes on .Net frame work.

Or

- (b) Discuss about type conversion.

- (a) Explain about classes.

Or

- (b) Write short notes on web servers.

- (a) State the different types of Asp .Net files.

Or

- (b) Discuss about the three ways to code web forms.

- (a) Write short notes on web control classes.

Or

- (b) Discuss about fonts.

15. (a) Discuss about the calendar day properties.
Or
(b) Define view state and explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss about Arrays and enumeration.
Or

(b) Write detail notes on string objects.

17. (a) Write detail notes on inheritance.
Or

(b) Discuss how to install Asp. Net.

18. (a) Write a Asp.Net program to convert rupee to dollar.
Or

(b) Discuss about Http Request class.

19. (a) Write detail notes on auto post back and web control events.
Or

(b) Explain how to start a visual studio project.

20. (a) Discuss about regular expression.
Or

(b) Write detail notes on ADO. Net and data management.

(6 pages)

Reg. No. :

Code No. : 20992

Sub. Code : GMC
GMC

B.Sc. (CBCS). DEGREE EXAMINATION, APRIL

Fifth Semester

Computer Science/Software Engineering – Me

SOFTWARE ENGINEERING

(For those who joined in July 2012-2015)

Time : Three hours

Maximum : 70

- PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A _____ S/W is developed according to the specification drawn up by one or more customers.
(a) Customized (b) Outsourced
(c) Professional (d) System
2. Unit testing is carried out in which phase of the waterfall model?
(a) Implementation (b) Testing
(c) Design (d) Maintenance

During requirement analysis, the analyst needs to identify and resolve

- (a) Anomaly
- (b) Inconsistency
- (c) Incompleteness
- (d) All the above

_____ is a measure of the functional strength of a module.

- (a) Cohesion
- (b) Coupling
- (c) Layered design
- (d) Good design

A _____ lists the purpose of all data items and the definition of all composite data items in terms of their component data item.

- (a) Data Dictionary
- (b) DFD
- (c) Context Diagram
- (d) Data Definition List

Which diagram shows the structural and behavioural aspects explicitly

- (a) Collaboration
- (b) Sequence
- (c) Object
- (d) Activity

Widgets in user interface technology stands for

- (a) Window objects
- (b) Orpaned window
- (c) Orpaned window
- (d) Wily midiget

8. An/A _____ denotes an incorrect behavior exhibited by the

- (a) Error (b) Mistake
(c) Failure (d) Bug

9. ISO _____ standard applies to organizations involved only in installation and testing products.

- (a) 9000 (b) 9001
(c) 9002 (d) 9003

10. Which of the following can be reused?

- (a) Design (b) Code
(c) Test cases (d) Reports

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 250 words

11. (a) What is data flow oriented software development methodology? Discuss.

Or

(b) What is meant by project size? Discuss popular metrics to measure it.

12. (a) State and explain the desirable characteristics of a good SRS document.

Or

(b) With example, enumerate different types of cohesion that a module in a design might exhibit.

13. (a) Discuss the basic building blocks needed to design a structure chart.

Or

(b) What is method overriding? Illustrate with example.

14. (a) Compare the relative advantages of command language, menu based and direct manipulation interfaces.

Or

(b) Write about white box testing.

15. (a) With neat block diagram explain the CASE environment.

Or

(b) How to estimate the maintenance cost?

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe different phases of spiral model. What are the advantages and disadvantages of a spiral model?

Or

- (b) Write in detail about project planning.

17. (a) Describe the process to create a DFD model of software from its source code.

Or

- (b) What is interaction diagram? Describe types with example.

18. (a) What is the formal technique? Explain detail.

Or

- (b) How to characteristics a good software design?

19. (a) Describe window management system detail.

Or

- (b) Identify the debugging approaches and activities.

10. (a) Discuss the main requirements of ISO 9001.

Or

(b) Write elaborately about reuse approach.

Code No. : 20995

Sub. Code : GMCS 01
GMSE 01

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Sixth Semester

Computer Science/Software Engineering – Main

OPERATING SYSTEM

(For those who joined in July 2012 – 2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. An operating system is a _____.

- (a) program that manages the computer hardware
- (b) application program
- (c) computing resource
- (d) hardware

_____ provide an interface to the services made available by an operating system.

- (a) User Interface
- (b) System calls
- (c) GUI
- (d) Resource allocation

Each process is represented in the operating system by a _____.

- (a) process control block
- (b) task control block
- (c) process number
- (d) (a) or (b)

Interprocess communication is _____.

- (a) communication within the process
- (b) communication between two process
- (c) communication between two threads of same process
- (d) none of the above

The number of processes that are completed per time unit is called _____.

- (a) Throughput
- (b) Turnaround time
- (c) Waiting time
- (d) Response time

6. Banker's algorithm is for dead lock _____
(a) Avoidance (b) Prevention
(c) Detection (d) Recovery
7. Swapping requires a _____.
(a) keyboard (b) monitor
(c) backing store (d) mother board
8. The physical memory is divided into fixed size blocks called _____.
(a) Frames (b) Pages
(c) Backing store (d) Blocks
9. The function of usual file extension commands are
(a) Libraries of routines for programmers
(b) Ready-to-run machine language programs
(c) Commands to the command interpreter
(d) Source code in a programming language
10. _____ manages metadata information
(a) File-control Block
(b) Extended File system
(c) Logical File System
(d) Basic File System

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Write about system components.
Or
(b) Write a short note on virtual machines.
12. (a) Explain process scheduling in detail.
Or
(b) Describe multiple-processor scheduling.
13. (a) Explain the concept of contiguous memory allocation.
Or
(b) Describe critical section problem.
14. (a) What is Deadlock? Explain its characterization.
Or
(b) Write short on the basic concepts of demand paging.
15. (a) Describe the file concepts.
Or
(b) Write about file system structure.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the operating system functions in main frame, multiprocessor, distributed and clustered systems.

Or

(b) Explain :

- (i) Operating system services,
- (ii) System programs.

17. (a) Describe the operations on processes.

Or

(b) Explain any two CPU scheduling algorithms in detail.

18. (a) Describe the classical problems of process synchronization.

Or

(b) Explain how the deadlock can be avoided.

19. (a) Explain the paging scheme in detail.

Or

(b) Explain the page replacement concepts in detail.

20. (a) Explain File access methods.

Or

(b) Explain File Allocation methods in detail.

(6 pages)

Reg. No. :

Code No. : R 21163

Sub. Code : JACS
JAS

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Third Semester

Computer Science/Software Engineering — Allied

COMPUTER ARCHITECTURE

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is a group of bits that instruct computer to perform a specific operation.

- (a) Binary Code
- (b) Instruction Code
- (c) Operation Code
- (d) Hexadecimal Code

_____ register holds memory operand.

- (a) address
- (b) input
- (c) output
- (d) data

_____ performs the required microoperations for executing the instructions.

- (a) Memory Unit
- (b) Registers
- (c) ALU
- (d) Control unit

Identify the symbol used for Transfer A Operation

- (a) INCA
- (b) ADD
- (c) TSFA
- (d) SUB

The solution to any problem that is stated by a finite number of well-defined procedural steps is called an

- (a) program
- (b) flowchart
- (c) commands
- (d) algorithm

The two signs A and B are compared by an _____ gate.

- (a) OR
- (b) AND
- (c) NOT
- (d) Exclusive-OR

7. Each peripheral device has associated with _____ unit.

- (a) Input (b) Control
- (c) ALU (d) Interface

8. A _____ command is used to test various status conditions in the interface and peripheral.

- (a) control (b) status
- (c) input (d) output

9. A multiprocessor system with common shared memory is classified as a shared memory _____ coupled multiprocessor.

- (a) tightly (b) loosely
- (c) strongly (d) data

10. _____ multiprocessor system consists of a number of processors connected through a common path to a memory unit.

- (a) Multi-port
- (b) Common-bus
- (c) Crossbar
- (d) Hypercube

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Write note on Instruction code and operation code.

Or

(b) Draw a diagram of control unit of basic computer Explain.

(a) Elucidate the purpose of Control word.

Or

(b) Explain the three address Instruction format.

(a) Explain the Hardware implementation for addition operation.

Or

(b) How to perform Multiplication of two fixed-point binary numbers in signed-magnitude representation?

(a) Discuss the features of Memory-mapped I/O.

Or

(b) Mention the usage of RAM memory.

15. (a) Compare loosely coupled system with tightly coupled system.

Or

- (b) Write note SISD and SIMD.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Discuss about control memory.

Or

- (b) Explain the functions of Registers in a computer.

17. (a) Illustrate the sequence of micro operations used to implement Push and Pop operations.

Or

- (b) Write note on addressing modes.

18. (a) Draw a flowchart for subtraction operation. Explain.

Or

- (b) Discuss the Booth Multiplication Algorithm.

Discuss the Direct Memory Access.

Or

Draw a block diagram of Associative memory and explain.

Explain the Time-shared common bus and multiport memory system.

Or

Discuss the Pipelining technique.

(6 pages)

Reg. No. :

Code No. : 21153

Sub. Code : JMCS
JMSE

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

First Semester

Computer Science and Software Engineering — Mac

PROBLEM SOLVEING TECHNIQUES AND
PROGRAMMING IN C

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. There are _____ generation of computers.
(a) 4 (b) 5
(c) 6 (d) 7
2. Which of the following is output device?
(a) touch screen (b) scanner
(c) monitor (d) all of these

Input data can be entered into computer from a standard input device by means of the C library function _____

- (a) scanf ()
- (b) input ()
- (c) read ()
- (d) fscan ()

The datatype character (char) has the range of values _____

- (a) -128 to 127
- (b) -170e - 308 to 1.70e + 308
- (c) 3.4e - 38 to 3.4e + 38
- (d) -32768 to 32767

The _____ statement is used to alter the normal sequence of program execution by transferring control to some other part of the program.

- (a) Transfer
- (b) Switch
- (c) Goto
- (d) Alter

The Do statement is an _____ controlled loop.

- (a) Exit
- (b) Entry
- (c) Entry and Exit
- (d) Entry / Exit

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) What are the characteristics of computer?

Or

(b) Explain about pointers.

(a) Give a note on datatypes and its classifications. Illustrate.

Or

(b) Discuss about the usage of various operators in C with examples.

(a) Develop a C program to find the sum of first 15 odd numbers using simple if statement.

Or

(b) Discuss the usage of switch statement with an example program.

(a) Give a note on string handling functions with example.

Or

(b) Write short notes on : Unions in C.

7. _____ function is used to copy a character string to a character variable.

(a) Strcpy () (b) Strcopy ()

(c) Stcopy () (d) Stcpy ()

8. _____ is a special case of function when function calls itself.

(a) chaining

(b) recursion

(c) redundancy

(d) duplication of function

9. _____ is a function name used to read integer from a file.

(a) Scanf () (b) Fscanf ()

(c) GetW () (d) Getd ()

10. The symbol _____ is an address operator which is used to access the address of a variable and assign it to a pointer to initialize it.

(a) &

(b) ~

(c) ^

(d) *

15. (a) Elucidate the procedure of declaring initialising and accessing pointer variables.

Or

- (b) Discuss in detail random access handling.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Explain in detail about generation computer.

Or

- (b) Discuss about input devices of computer systems.

17. (a) Write a C program to search a given number is available in a set of numbers.

Or

- (b) With general formats and examples, explain the concept of formatted input statement.

18. (a) Compare While, Do-while and For structures with examples.

Or

- (b) Write a 'C' program to calculate the standard deviation using array concept and looping concept.
- (a) Explain the categories of functions.

Or

- (b) Explain about Arrays of structures with an example program.
- (a) Describe I/O operations on files in C with examples.

Or

- (b) Develop a C program that uses the functions "ftell" and "fseek".
-

(6 pages)

Reg. No. :

Code No. : 21007

Sub. Code : GMCS 4 A
GMSE 4 A

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2018

Fourth Semester

Computer Science/Software Engineering — Main

Major Elective — MICROPROCESSOR

(For those who joined in July 2012-2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The _____ is a programmable integrated device that has computing and decision-making capability similar to the CPU.

- (a) microcontroller
- (b) microprocessor
- (c) microcomputer
- (d) minicomputer

The _____ is a 7 bit alphanumeric code with 128 combinations.

- (a) Extended ASCII
- (b) ASCII
- (c) UNICODE
- (d) Binary code

_____ is a group of devices that can perform functions such as initiate, internal and peripheral operations.

- (a) MPU
- (b) CPU
- (c) ALU
- (d) Control unit

_____ is made up of flip-flops and its stores the bit as voltage.

- (a) R/WM
- (b) DRAM
- (c) SRAM
- (d) PRAM

_____ is an opcode used to stop executing and enters wait state.

- (a) NOP
- (b) STOP
- (c) HLT
- (d) Exit

Instruction used for rotate each bit in the accumulator to the left through the carry is _____.

- (a) RAR
- (b) RLA
- (c) RAL
- (d) RRC

7. _____ are used primarily to keep track of events.

- (a) stacks (b) registers
(c) counters (d) time delays

8. A stack is _____.

- (a) 8-bit register in the microprocessor
(b) 16-bit register in the microprocessor
(c) a set of memory locations in R/WM
(d) 16-bit memory address stored in the program counter.

9. _____ instruction do not affect the flag.

- (a) arithmetic
(b) data transfer
(c) logical
(d) all the above

10. A counter design generally includes a _____ loop.

- (a) double (b) delay
(c) counter (d) condition

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Write short notes on high level languages.

Or

(b) Describe the 8085 arithmetic operations.

(a) State the primary operations of MPU.

Or

(b) Write short notes on Tri-state devices.

(a) Explain unconditional jump.

Or

(b) Discuss about dynamic debugging.

(a) List out the common errors in counter and time delay programs.

Or

(b) Discuss about CALL and RET instruction.

15. (a) Write down the steps for Binary to BCD conversion.

Or

- (b) Write instruction to display the content of stack pointer register at output ports.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Explain the microprocessor controlled temperature system.

Or

- (b) Discuss about the 8085 programming mode.

17. (a) Write detail notes on 8085 internal operations and its registers.

Or

- (b) Draw the 8085 pin diagram and explain.

18. (a) Write detail notes on logical operations.

Or

- (b) Discuss about Block transfer of data bytes.

(a) Describe the counter design with time delay.

Or

(b) State the detail notes on stack operations.

(a) Describe the BCD-to-Seven segment-LED code conversion.

Or

(b) Write detail notes on BCD Addition.

(6 pages)

Reg. No. :

Code No. : 20993

Sub. Code : GMCS 00
GMSE 00

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2011

Fifth Semester

Computer Science / Software Engineering — Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2012 – 2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Random scan displays are designed to draw component lines at of a picture _____ times each second.

- (a) 20 to 40 (b) 30 to 60
(c) 40 to 70 (d) 20 to 50

In beam penetration method, _____ layers of phosphor are usually used.

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

The transformation in which an object is moved in a minimum distance path from one position to another is called

- (a) Rotation (b) Replacement
(c) Translation (d) Scaling

_____ controls the basic display properties of output primitives.

- (a) Attribute parameter
(b) Setpixel
(c) Getpixel
(d) None of the above

The region code of a point within the window is _____.

- (a) 1111 (b) 0000
(c) 1000 (d) 0001

6. According to Cohen-Sutherland algorithm, a line is completely outside the window if

- (a) The region codes of line endpoints have same bit position.
- (b) The endpoints region code are non-zero values.
- (c) If L bit and R bit are nonzero.
- (d) The region codes of line endpoints have same bit position.

7. _____ mode is the program and the devices again operate concurrently, but now input devices deliver data to an input queue.

- (a) Sample (b) Request
- (c) Event (d) Response

8. The centre of projection is at a point which is _____ projection.

- (a) Serial (b) Parallel
- (c) Perspective (d) Affinity

9. Adding _____ to objects on your slide not only controls the flow of information, but also adds interest to your presentation.

- (a) background (b) transition
- (c) animation (d) popups

10. _____ is a shorthand representation of music stored in numeric form

- (a) Digital Audio (b) MIDI
- (c) Audio Resolution (d) Mono files

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Describe the working of DVST.

Or

(b) List the properties of Circle.

(a) Write note on Curve attributes.

Or

(b) Explain the working of composite transformations.

(a) Explain viewing transformation using standard rectangles for the window and view port.

Or

(b) How Line clipping is performed using Non rectangular clip windows?

14. (a) Distinguish between parallel projection and perspective projection.

Or

- (b) Describe the principles of transformation from world to view coordinates.

15. (a) What is meant by multimedia presentation?

Or

- (b) Write note on how sound is used in multimedia.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Describe the principles of Hard Disk Devices.

Or

- (b) Write an DDA algorithm.

17. (a) Discuss the functions used for clipping attributes.

Or

- (b) Describe the 2D Transformation Operations: Scaling.

18. (a) Explain the process of Point Clipping.

Or

(b) Write note on polygon clipping.

19. (a) Write note on Back-face detection methods.

Or

(b) Discuss the Logical classification of Input devices.

20. (a) Illustrate the working principle of Scanner and Sound Card.

Or

(b) Discuss the issues and trends in Multimedia.

(6 pages)

Reg. No. :

Code No. : 20994

Sub. Code : GMCS 63
GMSE 63

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2014

Fifth Semester

Computer Science/Software Engineering – Main

WEB TECHNOLOGY

(For those who joined in July 2012 – 2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Which protocol is used to retrieve web pages from a web server?

- (a) SMTP
- (b) HTTP
- (c) FTP
- (d) TCP

A connectionless protocol

- (a) UTP
- (b) UDP
- (c) IP
- (d) TCP

An attribute to specify the location of the image.

- (a) all
- (b) loc
- (c) src
- (d) img

A filter to make a specified color transparent.

- (a) alpha
- (b) blur
- (c) color
- (d) chroma

_____ tag is used in the HTML document, if the browser does not support script languages.

- (a) <java>
- (b) <non script>
- (c) <script>
- (d) <jscript>

_____ statements used to run a block of code when number of repetitions are not known.

- (a) Do...loop
- (b) While...do
- (c) For...Next
- (d) For each

7. What does PHP stand for?
- (a) Personal Home Page
 - (b) Personal Hypertext Page
 - (c) Preprocessor Home Page
 - (d) Preprocessor Hypertext Page

8. A function to compare two strings
- (a) strcmp() (b) strcasecmp()
 - (c) strspn() (d) all the above

9. What will be the O/P of the following code?

```
<?php
$i=0;
while ((--$i>+$i)-1)
{
    print $i;
}
>
```

- (a) 0000... infinitely
- (b) -1-1-1...
- (c) no O/P
- (d) error

PHP's indexed array starts with the position

- (a) 1 (b) -1
- (c) 0 (d) 2

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

- (a) Explain the client/server concept of web.

Or

- (b) Write a note on SMTP.

- (a) Explain <Table> tag. Also explain all its attributes and related tags with examples.

Or

- (b) Discuss various ways to add styles to a web page.

- (a) Discuss various properties and methods associated with Buttons, Radio buttons and check boxes.

Or

- (b) Illustrate different types of procedures used in VBscript.

14. (a) Discuss various statements used in PHP.

Or

(b) How to manipulate and compare variables?
Give examples.

15. (a) With example, explain while () and do()

Or

(b) Write a note on array function.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Describe the significance of IP addresses and their types.

Or

(b) Illustrate the functionality and purpose of HTTP. Discuss its characteristics.

17. (a) Write in detail about HTML forms.

Or

(b) What are the different ways of defining the position of elements? Discuss.

(a) Explain the following Javascript objects :

(i) Window

(ii) FORM.

Or

(b) What is Cookie? How to create cookie variable? How to read it? Give example.

(a) Discuss the features and architecture of PHP and MYSQL.

Or

(b) Describe various data types of PHP with example.

(a) Explain various conditional statements.

Or

(b) Discuss how to group form selections with arrays.

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Transmission channel transports signals from the transmitter to the receiver.

- (a) pulse
- (b) digital
- (c) electrical
- (d) none of these

Which of the following is prefix code
_____?

- (a) x_0, x_1
- (b) $0x, x_1$
- (c) $0, x_1$
- (d) none of these

Which of the following connection oriented phase
_____.

- (a) Data transfer
- (b) Connection establishment
- (c) Connection release
- (d) All of the above

"Binary 1 may be received as a binary 0"
_____ this error called as .

- (a) Flow
- (b) Content
- (c) Syntax
- (d) None of these

Error control carried out by _____ layer.

- (a) data
- (b) physical
- (c) network
- (d) session

6. BISYNC supports the following _____.

- (a) ASCII
- (b) EBCDIC
- (c) Transcode
- (d) All of these

7. A _____ is needed to expand geographical coverage of an Ethernet LAN.

- (a) Repeater
- (b) Topology
- (c) Protocol
- (d) None of these

8. Slotted ALOHA is a _____ algorithm.

- (a) connection
- (b) collision
- (c) throughput
- (d) all of these

9. _____ layer is between the application and the TCP layer.

- (a) SSL
- (b) DES
- (c) RSA
- (d) None of these

10. Security mechanisms can be built in _____ layer.

- (a) Transport
- (b) Network
- (c) (a) and (b)
- (d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) What do you mean by unipolar and polar words line codes? Explain its levels.

Or

(b) Explain in details about Metallic transmission media.

(a) Write in details about check sum error detection method.

Or

(b) Write about other layered architectures.

(a) Write in details about frame design considerations.

Or

(b) What are the service provided to data link layer by physical layer?

(a) Discuss about layered architecture LAN.

Or

(b) Explain slotted ALOHA.

15. (a) Write and explain public key encryption algorithm.

Or

- (b) Discuss about Firewalls.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss about modes of data transmission.

Or

- (b) Write in details about optical fibre.

17. (a) Discuss about parity checking error detection method.

Or

- (b) Discuss about OSI reference layer model.

18. (a) Discuss in details about sliding window flow control.

Or

- (b) Discuss about BISYNC frame format.

10. (a) Explain in details about LLC sub layer.

Or

(b) Write in details about CSMA collision avoid method.

(a) Write in details about IP security.

Or

(b) Suppose you are using RSA encryption with $p = 7$ $q = 11$ and $e = 7$. Find decryption key d .

(6 pages)

Reg. No. :

Code No. : 21161

Sub. Code : JACS 10
JASE 11

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

First Semester

Computer Science/Software Engineering – Allied

DISCRETE MATHEMATICS

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. If $(a, a) \in R$ for all $a \in n$ then the relation is called as

- (a) transitive
- (b) symmetric
- (c) reflexive
- (d) none of these

A relation which is reflexive, anti symmetric and transitive called _____ relation

- (a) Equivalence
- (b) Partial order
- (c) Inverse
- (d) Binary

The other name for one-to-one function is _____

- (a) surjective
- (b) bijective
- (c) injective
- (d) none of these

$f \circ g(x) = ?$

- (a) $g(f(x))$
- (b) $f(g(x))$
- (c) $f(f(x))$
- (d) all of these

The following operator is called as conjunction

- (a) \wedge
- (b) \vee
- (c) \sim
- (d) none of these

If $p = T$ and $q = F$ then $p \vee q = ?$

- (a) F
- (b) T
- (c) T or F
- (d) none of these

All the elements of matrix is zero then it is called as _____

- (a) identity
- (b) null
- (c) column
- (d) row

8. A square matrix is said to be skew-symmetric if $A^T = ?$.

- (a) A (b) A^T
(c) $(A^T)^T$ (d) A^{-1}

9. The number of odd degree vertices in a graph is always _____

- (a) odd (b) even
(c) 100 (d) none of these

10. A tree is a _____ graph

- (a) cyclic (b) acyclic
(c) self (d) none of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 250 words

11. (a) Discuss in detail Inverse of relation

Or

(b) What is relation? Explain with example

(a) Show that the function $f(x) = x^3$ and $g(x) = x^{1/3}$ for all $x \in R$ are inverse of each other.

Or

(b) Write in detail about functions with neat diagrams.

(a) What is condition statement? Explain with example.

Or

(b) Find the CNF of the following:

- (i) $p \wedge (p \Rightarrow q)$
(ii) $(q \vee (p \wedge r)) \wedge \sim ((p \vee r) \wedge q)$.

(a) Find the transpose matrix for

$$\begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 6 & 7 & 8 & 9 & 0 \\ 1 & 1 & 2 & 4 & 3 \\ 5 & 3 & 1 & 7 & 8 \end{pmatrix}.$$

Or

(b) Prove that $(A^*)^* = A$, where A is conjugate transpose matrix.

15. (a) Write in detail about types of graphs.

Or

(b) Prove that a simple graph with n vertices contains at least two vertices of degree $\leq n-2$.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write in details about Inverse of relation.

Or

(b) How to represent a relation in matrix format? Explain.

17. (a) Explain the following:

(i) One-to-one

(ii) Onto

(iii) Bijective functions.

Or

(b) Suppose $f : A \rightarrow B$ is a bijective function.

f^{-1} is its inverse, for each $x \in A$

$$f \circ f^{-1}(x) = x \quad f^{-1} \circ f(x) = x,$$

$$f \circ f^{-1} = I_B \text{ and } f^{-1} \circ f = I_A.$$

- (a) Determine the DNF of

$$p \Rightarrow ((p \Rightarrow q) \wedge (\sim q \vee \sim p)).$$

Or

- (b) Show that $p \Leftrightarrow q$ and $(p \Rightarrow q) \wedge (q \Rightarrow p)$ are equivalent.

- (a) Show that $A^T = A$, where A is symmetric matrix.

Or

- (b) Prove that $A^3 - 4A^2 - 3A + 11I = 0$ where

$$A = \begin{bmatrix} 1 & 3 & 2 \\ 2 & 0 & -1 \\ 1 & 2 & 3 \end{bmatrix} \text{ and } I \text{ in unit matrix.}$$

- (a) Explain the following:

- (i) Direct
- (ii) Undirect
- (iii) Weighted graphs.

Or

- (b) Discuss in detail about Binary trees.
-

(6 pages)

Reg. No. :

Code No. : 21156

Sub. Code : JMC8
JMSI

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2016

Third Semester

Computer Science / Software Engg. — Main

JAVA PROGRAMMING

(For those who joined in July 2016 onward#)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The _____ operator is used to access instance variables and method of class objects.

- (a) Instance of (b) Size of
(c) Comma (,) (d) Dot (.)

Java Compiler translates source code into what is known as _____ instructions.

- (a) Assembly (b) Machine
(c) High-level (d) Byte code

A package is a collection of _____.

- (a) Classes (b) Interfaces
(c) Editing tools (d) Classes Interface

Multiple inheritance is implemented through _____.

- (a) Package (b) Interface
(c) Array (d) None of the above

The subclass is otherwise called as _____.

- (a) Protected classes (b) Derived class
(c) Public class (d) Private class

If an exception occurs within the _____ block, it is thrown.

- (a) Catch (b) Try
(c) Thrown (d) None of the above

7. The drawArc () method designed to draw takes _____ arguments.
- (a) Two (b) Four
(c) Six (d) Eight
8. The _____ method is called each time applet's output must be redrawn.
- (a) Repaint () (b) Destroy ()
(c) Draw () (d) Paint ()
9. The _____ package contains a number of stream classes that provides capabilities for processing all type of data.
- (a) Java.io (b) Java.stream
(c) Java.Input (d) Java.Output
10. The _____ class is used to create Pop-up list of items from which the user can choose.
- (a) Choice (b) List
(c) Label (d) Check

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

- (a) Discuss about data types in Java with examples.

Or

- (b) Discuss about one-dimensional arrays in java with example.

- (a) How do you invoke a constructor? Explain.

Or

- (b) What is Inheritance? Explain about single inheritance.

- (a) Write short notes on java packages creation.

Or

- (b) Explain about try and catch with example.

- (a) Explain about <applet> tags with example.

Or

- (b) Explain Mouse Event handling.

15. (a) Discuss checkbox group in AVOT.

Or

(b) Explain about tables with example.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Discuss Multidimensional array in Programming.

Or

(b) Describe the use of different kinds of operators in Java with suitable illustrations.

17. (a) Explain about,

(i) Argument passing

(ii) Returning objects.

Or

(b) Write a Java Program to implement multilevel inheritance.

18. (a) Explain about suspending, resuming and stopping threads with examples.

Or

(b) Explain about `isAlive ()` and `join ()` with example.

- (a) Discuss about Applet architecture and skeleton.

Or

- (b) Explain about,
- (i) Any four html tag
 - (ii) Passing parameters to applets.
- (a) Write about the following with example program.
- (i) Drawline
 - (ii) Button in Java AWT.

Or

- (b) Write about,
- (i) Text field
 - (ii) Menu bars in AWT.
-

(6 pages)

Reg. No. :

Code No. : 21169

Sub. Code : JNCS
JNSE

U.G. (CBCS) DEGREE EXAMINATION, APRIL 2016

Fourth Semester

Computer Science/Software Engineering

Non-Major Elective — FUNDAMENTALS OF
INTERNET

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The communication facility available in Internet is _____.

- (a) E-mail (b) Telegram
(c) SMS (d) Mail

What is the client program used to get information from Internet?

- (a) Monitor (b) Modem
(c) Browser (d) Server

DNS means _____.

- (a) Domain Name System
(b) Double Name System
(c) Different Naming Service
(d) Domain Naming Service

What is the mail transfer protocol?

- (a) UDP (b) SMTP
(c) FTP (d) TCP

Which option is used to upload the files to the server in FrontPage?

- (a) Upload (b) Send
(c) Make (d) Publish

Website addresses are allotted by _____.

- (a) InterNIC (b) NIC
(c) DEC (d) ISO

7. The _____ is a type of trade with software tools.

- (a) E-Purchase
- (b) E-mail
- (c) E-Sale
- (d) E-Commerce

8. Which trade is between seller and seller?

- (a) C2B
- (b) C2C
- (c) B2B
- (d) B2C

9. What is used to prevent the attack of hackers on the Internet?

- (a) Firewall
- (b) Password
- (c) Address
- (d) Anti-Virus

10. The _____ attaches itself to the e-mail or files.

- (a) Tag
- (b) Bug
- (c) Worm
- (d) Virus

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Explain the advantages of Internet.

Or

(b) Write notes on TCP/IP protocol.

(a) Who are Internet Service Providers? How will you select them?

Or

(b) List and explain types of website.

(a) Define Domain. How a domain is obtained?

Or

(b) Write about Visitor Analysis and Statistics.

(a) List out and explain the business relationship of E-commerce.

Or

(b) Write notes on Virtual stores.

(a) How will you build a blog site? Explain.

Or

(b) Write notes on Phishing and Pharming.

SECTION C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

6. (a) Explain Internet services in detail.

Or

- (b) List and explain the next generation network technologies.

7. (a) Discuss the working of E-mail system.

Or

- (b) Explain search engines with example.

8. (a) Discuss the structure of the Website with an example.

Or

- (b) Write notes on :

(i) FrontPage

(ii) Dreamweaver

19. (a) Bring out the types of Internet based Trading.

Or

- (b) Compare E-commerce and M-commerce.

Write about (i) Hacking (ii) Internet Threats.

Or

Describe the Firewalls and Intrusion Prevention Systems.

Third Semester

Computer Science/Software Engineering

Non-Major Elective — INTRODUCTION TO
COMPUTER

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The development of computers can be divided into _____ generations.

- (a) 3
- (b) 4
- (c) 5
- (d) 6

UNIVAC is an example of _____.

- (a) 1st generation computer
- (b) 2nd generation computer
- (c) 3rd generation computer
- (d) 4th generation computer

_____ is the most commonly used input device.

- (a) keyboard
- (b) mouse
- (c) joystick
- (d) scanner

LCD stands for _____.

- (a) Liquid Colour Display
- (b) Light Colour Display
- (c) Lithium Crystal Display
- (d) Liquid Crystal Display

The operating system that is self-contained in the device and resident in ROM is _____.

- (a) Batch-Processing OS
- (b) Real-Time OS
- (c) Embedded OS
- (d) Multiprocessor OS

6. GUI stands for _____ user Interface.
(a) graphics (b) good
(c) guide (d) none of these

7. Header and Footer is in _____ menu MS Word.
(a) File (b) View
(c) Edit (d) Insert

8. Print command comes under the _____ menu.
(a) File (b) Format
(c) Insert (d) Help

9. Transistor were used in _____ generation of computers.
(a) First (b) Second
(c) Third (d) Fourth

10. Which of the following cables support the high bandwidth and fastest transmission rate?
(a) twisted pair cable
(b) coaxial cable
(c) open wire cable
(d) fibre optic cable

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 250 words.

(a) Explain the classification of computers.

Or

(b) Describe the block diagram of a computer and features of personal computers.

(a) Explain the RGB and CMYK color modes in photoshop.

Or

(b) Write about the CD-ROM in brief.

(a) Write detailed notes on functions of CPU.

Or

(b) How does OS works? Explain.

(a) Explain the pie and column charts in Excel with illustration.

Or

(b) Write down the steps for copying and moving a section of text in MS Word.

15. (a) Discuss types of Computer Networks.

Or

(b) Describe the basics of Computer Networks and Transmission media.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b),
each answer should not exceed 600 words.

16. (a) What are the characteristics of computer
Explain.

Or

(b) Discuss various computer generations.

17. (a) Discuss the various types Input Devices
their functioning.

Or

(b) Write an overview about output devices
ALU.

18. (a) Explain the different types of OS.

Or

(b) Write about windows Accessories.

- (a) Enumerate the 'spelling and grammar' concepts in word document with example.

Or

- (b) Discuss the different formatting features of paragraphs in MS Word with illustration.

- (a) Explain in details about need for communication media.

Or

- (b) Define the term topology. Explain the different network topologies.
-

Code No. : 20997

Sub. Code : GMCS 03
GMSE 03

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2018

Sixth Semester

Computer Science/Software Engineering — Main
DATA MINING

(For those who joined in July 2012-2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is a collection of exploratory techniques based on advanced analytical methods and tools for handling a large amount of information

- (a) Data Mining
- (b) KDD
- (c) OLTP
- (d) (a) or (b)

_____ is a typical datamining process

- (a) requirements analysis
- (b) data selection and collection
- (c) cleaning and preparing data
- (d) all the above

Confidence of $(x \rightarrow y) = ?$

- (a) $P(Y/X)$
- (b) $P(X \cap Y)$
- (c) $P(X)$
- (d) $P(XY)$

Given the association rules $x \rightarrow yz$ and $A \rightarrow BC$ which one of the following is true?

- (a) $y \rightarrow x$
- (b) $z \rightarrow y$
- (c) $A \rightarrow B$
- (d) $C \rightarrow A$

Classification is the _____ in to classes

- (a) separation of objects
- (b) separation of things
- (c) ordering of objects
- (d) all the above

6. Which one of the following is tree?
- (a) Decision tree is not predictive
 - (b) Decision tree is predictive
 - (c) Decision tree is not descriptive
 - (d) Quality of training data is not important for decision trees

7. Which of the following is a desired feature of cluster analysis?

- (a) maximal input parameters
- (b) scalability no more than three scans of large datasets
- (c) no more than three scans of large data sets
- (d) many scan of the data set

8. A distance metric used in cluster analysis must have the following property

- (a) always negative
- (b) distance from x to x is greater than Zero
- (c) distance from x to y is same as y to x
- (d) all the above

Web logs include information about _____

- (a) the referring pages
- (b) the ser information
- (c) the time a user spends and page visited
- (d) all the above

Web usage mining is _____

- (a) about web page contents
- (b) to discover the link structure of the web
- (c) about the user behaviour
- (d) a search engine

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

- (a) What do you understand about Data Mining? Explain.

Or

- (b) Explain Applications of Data Mining. Briefly.

- (a) Describe the basics of Association rule mining. Give examples.

Or

- (b) Explain Naive Algorithm with an example.

13. (a) What do you mean by classification? Explain decision tree with an example.

Or

- (b) Describe the NAIVE BAYES method.

14. (a) Describe the desired features of cluster analysis.

Or

- (b) Describe the types of cluster analysis methods.

15. (a) What do you mean by web mining? Describe any six web terminologies.

Or

- (b) What is web usage mining? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Explain Data mining Techniques in detail

Or

- (b) Describe any four data mining case studies

(a) Discuss the algorithmic aspects of the apriori algorithm.

Or

(b) Explain how to generate frequent pattern tree. Give an example.

(a) Explain split algorithm based on information theory for classification. Give an example.

Or

(b) Explain:

(i) Decision Tree rules

(ii) Evaluation criteria for classification methods.

(a) Explain partitional methods for clustering.

Or

(b) Explain Hierarchical methods for clustering.

(a) Explain about web content mining.

Or

(b) What is web structure mining? Explain HITS algorithm with an example.

(8 pages)

Reg. No. :

Code No. : 21265

Sub. Code : SACS II
SASE II

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2018

First Semester

Computer Science/ Software Engineering – Allied

DISCRETE MATHEMATICS

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. A relation R on set A is _____
whether $(a,b) \in R$ then $(b,a) \in R$.

- (a) Reflexive
- (b) Irreflexive
- (c) Symmetric
- (d) Non symmetric

The _____ closure is the smallest symmetric relation that contains R as a subset.

- (a) Non symmetric
- (b) Symmetric
- (c) Reflexive
- (d) Irreflexive

The inverse of the exponential function is called the _____ function.

- (a) Rational
- (b) Logarithm
- (c) Trigonometric
- (d) Irrational

The _____ function is after also called the greatest integer function.

- (a) Ceiling
- (b) Floor
- (c) Sum
- (d) Count

_____ is a conjunction $p \wedge q$ consists of two sub-statements p and q both of which exist simultaneously.

- (a) Negative conjunction
- (b) Negative of disjunction
- (c) Negation of conjunction
- (d) Negation of disjunction

6. A proposition obtained from the combination of two or more proposition is referred to as _____ proposition.

- (a) primary (b) automatic
(c) molecular (d) primitive

7. A matrix in which the number of rows is equal to the number of column is called as _____ matrix.

- (a) Null (b) Row
(c) Scalar (d) Square

8. A square matrix whose elements except those on the leading diagonal are zero is called _____ matrix.

- (a) unit (b) diagonal
(c) null (d) zero

9. A graph consists of finite number of vertices and finite number of edges are called _____.

- (a) Complete (b) Finite
(c) Infinite (d) Isolated

10. A graph in which loops and multiple edges are allowed, is called _____.

- (a) Multigraph (b) Simple
(c) Double (d) Pseudo graph

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) If $A = \{x, y, z\}$, $B = \{x, y, z\}$, $C = \{x, y\}$, $D = \{y, z\}$. R is a relation from A to B defined by $R = \{(x, X), (x, Y), (y, Z)\}$ and S is a relation from G to D defined by $S = \{(x, Y), (y, Z)\}$ find R' , $R \cup S$, $R \cap S$ and $R - S$.

Or

(b) Consider a relation R denoted on $A = \{1, 2, 3\}$ whose matrix representation is given below. Determine its inverse R^{-1} and complement R^c .

$$M_R = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 1 \\ 0 & 0 & 1 \end{bmatrix}$$

(a) Discuss about transcendental functions.

Or

(b) Let $f(x) = a_n x^n + a_{x-1} + a_{x-1} x_{x-1} + \dots + a_1 x a_0$ where $a_0, a_1, a_2, \dots, a_{n-1}, a_n$ are real number then prove $f(x)$ is $0(x_3)$.

13. (a) Form the conjunction of p and q for each of the following

(i) p : Ram is healthy q : He has blue eyes

(ii) p : It is cold q : It is raining

(iii) p : $5x + 6 = 26$ q : $x > 3$.

Or

(b) Obtain a conjunctive normal form of the following:

(i) $p \wedge (p \Rightarrow q)$

(ii) $[q \vee (p \wedge q)] \wedge \sim [(p \vee r) \wedge q]$.

14. (a) Find x, y, z and t if

$$2 \begin{bmatrix} x & z \\ y & t \end{bmatrix} + 3 \begin{bmatrix} 1 & -1 \\ 0 & 0 \end{bmatrix} = 3 \begin{bmatrix} 3 & 5 \\ 4 & 6 \end{bmatrix}.$$

Or

(b) Find the adjoint of $\begin{bmatrix} 4 & 2 \\ -1 & 3 \end{bmatrix}$.

(a) If $f(x) = x^2 - 5x + 6$ find $f(A)$ if

$$A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}.$$

Or

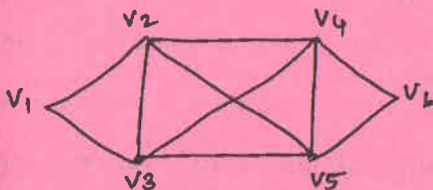
(b) If $A = \begin{bmatrix} 3 & 2 \\ 7 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 6 & 7 \\ 8 & 9 \end{bmatrix}$, verify that $(AB)^{-1} = B^{-1}A^{-1}$.

(a) Show that the maximum number of edges in a simple graph with n vertices is $\frac{n(n-1)}{2}$.

Or

(b) Explain the various operation of graphs.

- (a) Find the degree of each vertex of the following graph.



Or

- (b) Discuss about types of graph.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

- (a) Write detail notes on closure of Relation.

Or

- (b) Let $A = \{1, 2, 3\}$ and $B = \{a, b, c, d\}$. Let R and S be the relations from A to B with Boolean matrices.

$$M_R = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 \end{bmatrix} \text{ and } M_S = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 \end{bmatrix}.$$

- (i) Find Boolean matrices for $\underline{R^{-1}}$ and $\underline{S^{-1}}$.
- (ii) Find Boolean matrices for $\underline{(R \cap S) \circ R^{-1}}$ and $\underline{R \circ R^{-1} \cap S \circ R^{-1}}$.

17. (a) Let $f : A \rightarrow B$, $g : B \rightarrow C$ and $h : C \rightarrow \infty$ then prove $h \circ (g \circ f) = (h \circ g) \circ f$.

Or

- (b) Show that the mapping $f : R \rightarrow R$ be defined by $f(x) = ax + b$, where $a, b, x \in R$, $a \neq 0$ is invertible define its inverse.

18. (a) Consider the following

p : you take a course in Discrete mathematics

q : you understand logic

r : you get an A on the final exam.

Write in simple sentences the meaning of the following.

- (i) $q \Rightarrow r$ (ii) $\neg p \Rightarrow \neg q$ (iii) $(p \wedge q)$
(iv) $(p \wedge \neg q) \Rightarrow \neg r$ (v) $\neg(\neg r)$.

Or

- (b) Construct the truth tables for the following

(i) $\neg(p \wedge q) \vee \neg(q \Leftrightarrow p)$

(ii) $(p \Rightarrow q) \vee \neg(p \Leftrightarrow \neg q)$

(iii) $p \wedge \neg r \Leftrightarrow q \vee r$

(iv) $[(p \wedge q) \vee (\neg r)] \Leftrightarrow p$.

(a) If $f(x) = x^2 - 5x + 6$ find $f(A)$ if

$$A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}.$$

Or

(b) If $A = \begin{bmatrix} 3 & 2 \\ 7 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 6 & 7 \\ 8 & 9 \end{bmatrix}$, verify that $(AB)^{-1} = B^{-1}A^{-1}$.

(a) Show that the maximum number of edges in a simple graph with n vertices is $\frac{n(n-1)}{2}$.

Or

(b) Explain the various operation of graphs.

Code No. : 20998

Sub. Code : GMCS 00
GMSE 00

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Sixth Semester

Computer Science — Main

RELATIONAL DATABASE MANAGEMENT SYSTEM

(For those who joined in July 2012 – 2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. An _____ is any condition that the database must always satisfy

- (a) Assertion
- (b) Authorization
- (c) Dependency
- (d) Inconsistency

_____ stores meta data about the structure of the database

- (a) Data manager
- (b) E-R model
- (c) Data dictionary
- (d) Data file

The result of _____ contains all pairs of tuples from the two relations regardless of whether their attribute values match

- (a) Union
- (b) Set
- (c) Intersection
- (d) Cartesian product

The _____ clause is a predicate involving attributes of the relation in the from clause

- (a) Where
- (b) Select
- (c) From
- (d) Having

A sub query which returns only one tuple containing a single attribute

- (a) Nested
- (b) Scalar
- (c) Parallel
- (d) Co-related

The _____ clause is used to ensure that attribute values satisfy specified conditions

- (a) Check
- (b) Unique
- (c) Where
- (d) Group By

7. In E.R diagram _____ indicate the participation of an entity in the relationship set.

- (a) Diamond (b) Double diamond
(c) Dashed lines (d) Double lines

8. _____ are used to decompose a relation into 3 NF.

- (a) BCNF
(b) Canonical Covers
(c) Normalization
(d) None

9. The _____ statement is used to modify or update an already existing row of a table

- (a) Modify (b) Update
(c) Delete (d) Drop

10. Which of the following can initiate a trigger?

- (a) Insert (b) Update
(c) Delete (d) All the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

i) (a) What is data model? How it is classified? Explain.

Or

(b) Discuss the functions of DBA.

ii) (a) With example, explain the structure of relational database.

Or

(b) What is SQL? Explain its various parts.

iii) (a) With example, explain rename operation.

Or

(b) Write a short note on roles.

iv) (a) Describe mapping and participation constraints.

Or

(b) Discuss the algorithm to compute the closure of attribute sets.

15. (a) How to create and modify views? Give examples.

Or

- (b) What is trigger? Explain different types of triggers

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Write in detail about database languages

Or

- (b) Explain the database architecture with a block diagram.

17. (a) Explain various relational operations.

Or

- (b) How to define SQL relations? Explain with an example.

18. (a) Explain set operations with examples.

Or

- (b) Explain

- (i) Constraints on a single relation
- (ii) Referential integrity.

19. (a) Examine the design issues of Entity-relationship.

Or

(b) What is BCNF? How to test for BCNF? Explain BCNF decomposition algorithm.

20. (a) What is sequence? Explain elaborality with example.

Or

(b) What is package? How to create package? Write a sample PL/SQL code to create a package.

Reg. No. :

Code No. : 21263

Sub. Code : SMCS 11/
SMSE 11

III B.E. (CBCS) DEGREE EXAMINATION, APRIL 2018.

First Semester

Computer Science and Software Engineering — Main

PROGRAMMING IN C

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

What is the size of integer datatype?

- | | |
|-------------|-------------|
| (a) 2 bytes | (b) 1 byte |
| (c) 3 bytes | (d) 4 bytes |

_____ variables can be used by all the functions in the program.

- | | |
|-------------|------------|
| (a) Local | (b) Static |
| (c) Dynamic | (d) Global |

3. _____ constants represented as a single character enclosed within a single quote.

- (a) Integer (b) String
(c) Float (d) Character

4. _____ is an exit level control loop.

- (a) for (b) while
(c) do...while (d) for...each

5. _____ statement is used to stop the process of a block.

- (a) Goto (b) Continue
(c) Break (d) Switch

6. Each value of an array is referred by its name and _____.

- (a) Number (b) Index value
(c) Domain (d) Reference code

7. The string constants are defined between the _____ symbol.

- (a) ' ' (b) /s.../s
(c) " " (d) _____

8. _____ functions are not able to modify

- (a) user defined (b) pre defined
(c) recursive (d) local defined

9. _____ members can share the memory

- (a) auto (b) array
(c) union (d) structure

In pointer & symbol is referred _____ operator

- (a) AND (b) Bitwise AND
(c) Address (d) Deference

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Write short notes on character constants.

Or

(b) Briefly explain about special operator.

(a) Explain switch statements with suitable examples.

Or

(b) Write short notes on do...while loop.

(a) Discuss about Multi dimensional array.

Or

(b) Write short note on character arrays.

(a) Describe function declaration.

Or

(b) List out the uses of structures.

(a) Explain – how to declare pointer variables.

Or

(b) Explain – how to open a file.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) List out the various data types.

Or

(b) Discuss about the input/output operations.

17. (a) Explain the types of If statements.

Or

(b) Write detail note on looping statements.

18. (a) Discuss about arrays and its types.

Or

(b) Explain the various string handling functions.

19. (a) Write detail notes on user defined functions.

Or

(b) State the difference between structure and union.

20. (a) Explain – how to pass pointer as function argument.

Or

(b) Explain the various I/O operations in C.

8. The _____ flip flop used to synchro-
nize the state change during a clock pulse transition.
- (a) RS flip-flop
 - (b) Edge-triggered flip-flop
 - (c) J/K flip-flop
 - (d) T flip-flop

9. MRI stands for _____.
- (a) Memory Reference Instruction
 - (b) Memory Register Instruction
 - (c) Memory Reference Integration
 - (d) Memory Register Intrusion

10. Ripple counter is _____ counter.
- (a) synchronous
 - (b) asynchronous
 - (c) serial
 - (d) parallel

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Do the following
- (i) Convert $(0.6875)_{10}$ to binary
 - (ii) Convert $(0.513)_{10}$ to octal.

Or

- (b) What are universal gates? Explain.

- (a) Simplify $Y = A\bar{B}C + AB\bar{C}$.

Or

- (b) Simplify the following expressions using boolean algebra.

(i) $AB + A(CD + CD')$

(ii) $(BC' + A'D)(AB' + CD')$

- (c) Give the logic diagram of a 4-bit adder-subtractor and explain its working.

Or

- (a) Write a note on binary multiplexer.

- (b) Write about RS flip-flop.

Or

- (a) Discussing in detail, 2's complement arithmetic with example.

- (b) What are the types of register? Explain.

Or

- (a) Write about serial in-parallel out shift registers.

Answer ALL questions, choosing either (a) or (b) of each question.

Each answer should not exceed 600 words.

16. (a) What are basic logic gates? Describe any two.

Or

(b) Explain how the boolean expression $Y = AB + CD$ can be drawn using

(i) AND-OR circuit

(ii) NAND NAND circuit

(iii) AND-OR Invert circuit

17. (a) Simplify $Y = \overline{A}B\overline{C}D + \overline{A}BC\overline{D} + A\overline{B}C\overline{D}$

Or

(b) Simplify the boolean function $F(A, B, C, D, E) = \sum (0, 1, 4, 5, 10, 11, 12, 13)$

18. (a) Briefly discuss how to implement a 4-variable boolean function using multiplexers.

Or

(b) How multiplication of binary numbers is performed using the binary multiplier.

- (a) Describe the working of D-flipflop with the help of a state table, state diagram and analyze it.

Or

- (b) Explain Master-slave flip flop.
(a) Describe about universal shift register.

Or

- (b) Write parallel in parallel out register.
-

(6 pages)

Reg. No. :

Code No. : 41328 E Sub. Code : SNCS 3 B

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Science

Non-Major Elective — BASIC PROGRAMMING
DESIGN

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The diamond-shape symbol in the flowchart signifies
 - (a) processing
 - (b) connectors
 - (c) decision
 - (d) none of these

2. The terminal symbol in a flowchart represents
 - (a) start and end
 - (b) manual operation
 - (c) processing
 - (d) decision

3. White box testing is also known as
 - (a) glass box testing
 - (b) functional testing
 - (c) clear box testing
 - (d) both (a) and (c)
4. Logical error occurs due to
 - (a) incorrect syntax
 - (b) incorrect logic
 - (c) wrong inputs
 - (d) none of these
5. The language used in the business application is
 - (a) FORTRAN
 - (b) Java
 - (c) COBOL
 - (d) All of these
6. Machine language is also called as
 - (a) Low-level language
 - (b) Assembly language
 - (c) High-level language
 - (d) All of these
7. Linux operating system is a type of _____ software.
 - (a) shareware
 - (b) freeware
 - (c) commercial
 - (d) proprietary
8. Which of the following is a system software?
 - (a) MS-Word
 - (b) Tally
 - (c) MS-Power point
 - (d) Operating system

9. Which of the following is a search engine?
- (a) Macromedia flash
 - (b) Google
 - (c) Netscape
 - (d) Librarians' index to the internet
10. The internet is owned by
- (a) The US government
 - (b) A consortium of telecommunication techniques
 - (c) The IETF
 - (d) None of these.

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define a flow chart. List some important reasons for using flowcharts.
- Or
- (b) Define an algorithm. List the properties of a good algorithm.
12. (a) Define procedural programming.
- Or
- (b) Define modular programming.

13. (a) Give the full forms of the following :
- (i) COBOL
 - (ii) BASIC
 - (iii) FORTRAN
 - (iv) PROLOG
 - (v) LISP.

Or

- (b) Write a short note on Assembler.
14. (a) What do you mean by the following terms :
- (i) Compiler
 - (ii) Interpreter.

Or

- (b) What is a firmware? What is its importance in a computer system?
15. (a) What is a newsgroup? How can you subscribe to it?

Or

- (b) What do you mean by computer virus? How many types of virus can infect the computer?

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss the structure of a flowchart. What guidelines should be followed while making a flowchart?

Or

- (b) What benefits do decision tables offer over flowcharts?

17. (a) Explain the characteristics of a good program.

Or

- (b) Discuss the various aspects of object-oriented programming paradigm.

18. (a) Explain the features of a good programming language.

Or

- (b) Explain in detail any six popular high-level language.

19. (a) Discuss in detail about the categories in which the software can be divided.

Or

- (b) Why is application software important? In which areas are application software used? Give relevant software names and their use.

20. (a) List various services provided by the Internet.

Or

- (b) What is e-mail? Explain its working with the help of an example.
-

(6 pages)

Reg. No. :

Code No. : 41325 E Sub. Code : SMCS 33

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Science – Main

DATA STRUCTURES

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Algorithms must satisfy the _____ criteria.
 - (a) Finiteness
 - (b) Definiteness
 - (c) Effectiveness
 - (d) All the above

2. The _____ of a program is the amount of memory that it needs to run to completions.
- (a) Space complexity
 - (b) Time complexity
 - (c) Data abstraction
 - (d) (a) or (b)
3. In which ordered list type the insertions and deletions take place at different ends?
- (a) Stack
 - (b) Queues
 - (c) Linked list
 - (d) None
4. The postfix notation of the infix notation $(a + b) * c + (d / E) - (a + c)$ is _____.
- (a) $abc + *dE / - ac +$
 - (b) $ab + c * dE / + ac + -$
 - (c) $ab + c * dE / - ac +$
 - (d) $ab + c * d / E + ac + -$
5. The maximum number of nodes on level i of a binary tree is _____, $i \geq 1$.
- (a) $2^i - 1$
 - (b) 2^i
 - (c) 2^{i-1}
 - (d) $2^i + 1$

6. In tree traversal, moving left, visiting the node and moving Right is _____ traversal.
- (a) In order (b) Post order
(c) Pre order (d) All the above
7. A tree is a _____ graph.
- (a) Cyclic (b) Connected cyclic
(c) Acyclic (d) Connected acyclic
8. The maximum number of edges in any n -vertex undirected graph is _____.
- (a) $n - 1$ (b) $n(n - 1)$
(c) $n(n - 1)/2$ (d) $(n - 1)/2$
9. The total computing time for merge sort is _____.
- (a) $O(n)$ (b) $O(n \log n)$
(c) $O(\log n)$ (d) $O(\log n + 1)$
10. A pivot element to partition unsorted list is used in _____.
- (a) Merge sort (b) Quick sort
(c) Insertion sort (d) Heap sort

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are Algorithms? What are the various criteria that must be satisfied by the algorithms? Explain.

Or

- (b) What is a data type? What are abstract data types? Explain and give examples.

12. (a) Explain stack with an example.

Or

- (b) Describe Singly Linked List.

13. (a) What are Binary trees? Describe the properties and memory representations with neat block diagram.

Or

- (b) With an example, explain insertion into and deletion from a Heap.

14. (a) What is Graph? Explain its representations. Give examples.

Or

- (b) Explain Prim's algorithm.

15. (a) Explain insertion sort with an example.

Or

- (b) What do you understand about static Hashing? Explain Hash table with an example.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about polynomials.

Or

- (b) Describe sparse matrices.

17. (a) Explain linked stacks and queues with the algorithms for operations.

Or

- (b) Explain Linked list representation of polynomials with operations. Give examples.

18. (a) Describe Binary Tree Traversals. Give examples.

Or

- (b) Explain Binary search trees with its operations.

19. (a) Explain Kruskal's algorithm with an example.

Or

- (b) Explain single source shortest path algorithm with an example.

20. (a) Explain quick sort and write the steps to sort the following set of data. {55, 74, 19, 15, 1, 2, 5, 34, 75, 25}.

Or

- (b) Sort the set of numbers using Heap and merge sort also write the steps for sorting.

{53, 15, 43, 9, 7, 4, 3, 25, 14, 36}.

(6 pages)

Reg. No. :

**Code No. : 41330 E Sub. Code : SACS 21/
SASE 21**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Second Semester

Computer Science – Allied

DIGITAL DESIGN

(For those who joined in July 2017 and afterwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The other name for gray code is _____
 - (a) Excess 3-code
 - (b) BCD
 - (c) Reflected code
 - (d) ASCII character code

2. _____ numbers are used extensively in micro process work
- (a) binary (b) octal
(c) decimal (d) hexadecimal
3. $x \oplus y =$ _____
- (a) $xy' + x'y$ (b) $xy + x'y'$
(c) $xx' + yy'$ (d) $x'y'$
4. A five variable map requires _____ squares
- (a) 5 (b) 16
(c) 64 (d) 32
5. A logic circuit with are input and many output is called a _____
- (a) De Multiplexers
(b) Multiplexer
(c) Combinational circuit
(d) Sequential circuit
6. What is the 2's complement (1001)?
- (a) 0110 (b) 1110
(c) 0101 (d) 0111

7. A register is a group of _____ suitable storing binary information
- (a) Counters (b) Adders
(c) Flip flops (d) Sub trackers
8. A flip flop circuits can be used for _____
- (a) Counting (b) Scaling
(c) Rectification (d) Demodulation
9. Ripple counter is _____ counter
- (a) Synchronous
(b) Asynchronous
(c) Serial
(d) Parallel
10. In _____ mode the operand is specified in the instruction itself.
- (a) Register
(b) Relative address
(c) Immediate
(d) Implied

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Find the octal and hexadecimal numbers for the following binary numbers :
- (i) 1000.1001
 - (ii) 100000011.100011.

Or

- (b) Write short notes on ASCII code.

12. (a) Simplify $Y = A\overline{B}C + ABC\overline{C}$.

Or

- (b) Simplify the following expressions using Boolean algebra

- (i) $AB + A(CD + CD')$
- (ii) $(BC' + A'D)(AB' + CD')$.

13. (a) Write short notes on Encoder.

Or

- (b) Discuss in detail, 2's complement Arithmetic with example.

14. (a) Discuss the principles of closed RS flip flops.

Or

- (b) What is D flip flop? Explain.

15. (a) Write about serial in serial out register.

Or

- (b) Explain universal shift register.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) In the following :
- (i) Convert $(0.6875)_{10}$ to binary
 - (ii) Convert $(0.513)_{10}$ to octal.

Or

- (b) Explain about excess -3 and array codes.

17. (a) Discuss the function of encoders.

Or

- (b) Write any four laws of Boolean algebra and construct the truth table.

18. (a) What is a half adder? Explain.

Or

(b) Discuss on seven segment decoder.

19. (a) Discuss about the RS flip flop and JK flip flop.

Or

(b) Explain master slave flip flop.

20. (a) Explain the operation of parallel in parallel out shift register.

Or

(b) Write about serial in parallel out shift register.

(6 pages)

Reg. No. :

**Code No. : 41330 E Sub. Code : SACS 21/
SASE 21**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Second Semester

Computer Science – Allied

DIGITAL DESIGN

(For those who joined in July 2017 and afterwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The other name for gray code is _____
 - (a) Excess 3-code
 - (b) BCD
 - (c) Reflected code
 - (d) ASCII character code

2. _____ numbers are used extensively in micro process work
- (a) binary (b) octal
(c) decimal (d) hexadecimal
3. $x \oplus y =$ _____
- (a) $xy' + x'y$ (b) $xy + x'y'$
(c) $xx' + yy'$ (d) $x'y'$
4. A five variable map requires _____ squares
- (a) 5 (b) 16
(c) 64 (d) 32
5. A logic circuit with are input and many output is called a _____
- (a) De Multiplexers
(b) Multiplexer
(c) Combinational circuit
(d) Sequential circuit
6. What is the 2's complement (1001)?
- (a) 0110 (b) 1110
(c) 0101 (d) 0111

7. A register is a group of _____ suitable storing binary information
- (a) Counters (b) Adders
(c) Flip flops (d) Sub trackers
8. A flip flop circuits can be used for _____
- (a) Counting (b) Scaling
(c) Rectification (d) Demodulation
9. Ripple counter is _____ counter
- (a) Synchronous
(b) Asynchronous
(c) Serial
(d) Parallel
10. In _____ mode the operand is specified in the instruction itself.
- (a) Register
(b) Relative address
(c) Immediate
(d) Implied

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Find the octal and hexadecimal numbers for the following binary numbers :
- (i) 1000.1001
 - (ii) 100000011.100011.

Or

- (b) Write short notes on ASCII code.

12. (a) Simplify $Y = A\overline{B}C + ABC\overline{C}$.

Or

- (b) Simplify the following expressions using Boolean algebra

- (i) $AB + A(CD + CD')$
- (ii) $(BC' + A'D)(AB' + CD')$.

13. (a) Write short notes on Encoder.

Or

- (b) Discuss in detail, 2's complement Arithmetic with example.

14. (a) Discuss the principles of closed RS flip flops.

Or

- (b) What is D flip flop? Explain.

15. (a) Write about serial in serial out register.

Or

- (b) Explain universal shift register.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) In the following :
- (i) Convert $(0.6875)_{10}$ to binary
 - (ii) Convert $(0.513)_{10}$ to octal.

Or

- (b) Explain about excess -3 and array codes.

17. (a) Discuss the function of encoders.

Or

- (b) Write any four laws of Boolean algebra and construct the truth table.

18. (a) What is a half adder? Explain.

Or

(b) Discuss on seven segment decoder.

19. (a) Discuss about the RS flip flop and JK flip flop.

Or

(b) Explain master slave flip flop.

20. (a) Explain the operation of parallel in parallel out shift register.

Or

(b) Write about serial in parallel out shift register.

(7 pages)

Reg. No. :

Code No. : 41329 E **Sub. Code : SACS 11/
SASE 11**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

First Semester

Computer Science and SE – Allied

DISCRETE MATHEMATICS

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. The word _____ is used to indicate a relationship between two objects
 - (a) Domain
 - (b) Value
 - (c) Sets
 - (d) Relation

2. A relation is _____ if and only if there is a loop at every vertex of the directed graph, so that ordered pair of the form (a, a) occurs in the relation
- (a) Symmetric (b) Asymmetric
(c) Transitive (d) Reflexive
3. The functions involving radicals are called _____ functions
- (a) Algebraic (b) Polynomial
(c) Irrational (d) Transcendental
4. _____ function is very useful in coding theory
- (a) Big-Omega (b) Hamming distance
(c) Omega (d) Distance
5. The words and phrases used to form compound propositions are called _____
- (a) Negation (b) Conjunction
(c) Disjunction (d) Connectives
6. A proposition that is neither a tautology nor a contradiction is called a _____
- (a) Positive (b) Negative
(c) Contradiction (d) Contingency

7. In a matrix $a_{ij} = 0$ for all $i \neq j$ and $a_{ii} = c$ then the matrix is referred as _____
- (a) Scalar (b) Row
(c) Zero (d) Square
8. In a matrix if $a_{ij} = 0$ all $i \neq j$ is called _____ matrix
- (a) Zero (b) Diagonal
(c) Scalar (d) Unit
9. Any pair of nodes that is connected by an edge in a graph is called _____ nodes
- (a) incident (b) adjacent
(c) isolated (d) order
10. A graph in which loops and multiple edges are allowed is called a _____
- (a) multi graph
(b) pseudography
(c) parallel graph
(d) simple graph

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain what is identity relation.

Or

- (b) Prove that if a relation \underline{R} on set \underline{A} is transitive and irreflexive, then it is asymmetric.

12. (a) Show that $f(x, y) = x^y$ is a primitive recursive function.

Or

- (b) Explain Inverse function.

13. (a) If p : it is cold and q : it is raining write simple verbal sentence of

(i) $\sim p$

(ii) $p \wedge q$

(iii) $p \vee q$

(iv) $p \vee \sim q$.

Or

- (b) Show that $R \wedge (p \vee q)$ is a valid conclusion from the premises $P \vee Q, Q \Rightarrow R, P \Rightarrow M$ and $\sim M$.

14. (a) Discuss about transpose of a matrix.

Or

- (b) Find the adjoint of $\begin{bmatrix} 4 & 2 \\ -1 & 3 \end{bmatrix}$.

15. (a) Draw the digraph G corresponding to

adjacency matrix $A = \begin{bmatrix} 0 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 1 & 0 \end{bmatrix}$.

Or

- (b) Explain simple graph and multigraph.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write detail notes on types of relations in a set.

Or

- (b) Let $A = \{1, 2, 3\}$ and $B = \{a, b, c, d\}$ let R and S be the relations from A to B with Boolean

matrices $M_R = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 \end{bmatrix}$ and

$$M_S = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 \end{bmatrix}.$$

- (i) Find Boolean matrices for R^{-1} and S^{-1} .
- (ii) Find Boolean matrices for $(R \cap S) \circ R^{-1}$ and $R \circ R^{-1} \cap S \circ R^{-1}$.

17. (a) Show that function $f(x, y) = x + y$ is primitive recursive function. Hence compute the value of $f(2, 4)$.

Or

- (b) Discuss about the various types of functions.

18. (a) Write detail notes on algebra propositions.

Or

- (b) Prove that the following propositions are tautologies

(i) $((p \Rightarrow q) \Rightarrow r) \Leftrightarrow ((p \Rightarrow r) \vee (q \Rightarrow r))$

(ii) $p \wedge (q \wedge r) \Leftrightarrow (p \wedge q) \wedge r$

(iii) $(p \wedge (p \vee q) \Leftrightarrow p)$.

19. (a) Discuss about typical square matrices.

Or

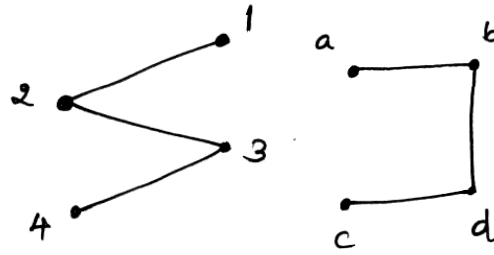
- (b) Find the inverse of $A = \begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$ by

elementary row operation.

20. (a) Write detail notes on types of graphs.

Or

(b) Show that the two graphs are isomorphic.



Reg. No. :

Code No. : 41327 B Sub. Code : SNCS 3 A

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Science — Non Major Elective

FUNDAMENTALS OF INTERNET

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. PSTN என்றால் என்ன?
 - (அ) Public switched telephone network
 - (ஆ) Personal switched telephone network
 - (இ) Personal switched telephone node
 - (ஈ) Public switched telephone node

PSTN stands for _____.

- (a) Public switched telephone network
- (b) Personal switched telephone network
- (c) Personal switched telephone node
- (d) Public switched telephone node

2. FTP யின் விரிவாக்கம் என்ன?

- (அ) Fine Transfer Protocol
- (ஆ) File Transfer Protocol
- (இ) First Transfer Protocol
- (ஈ) இவற்றில் ஏதும் குறிப்பிடவில்லை

Expansion of FTP is

- (a) Fine Transfer Protocol
- (b) File Transfer Protocol
- (c) First Transfer Protocol
- (d) None of the mentioned

3. Web addressல் .com என்பதன் பொருள் என்ன?

- (அ) Common (ஆ) Commercial
- (இ) Communication (ஈ) Command

What is a '.com' in a web address mean?

- (a) Common
- (b) Commercial
- (c) Communication
- (d) Command

4. மின் அஞ்சல் முகவரியில் @ குறியீட்டுக்கு முன் உள்ள முதல் பகுதி _____ எனப்படும்.

- (அ) WWW (ஆ) Domain name
- (இ) Username (ஈ) Password

The first part of your email address before the '@' is called your:

- (a) www (b) Domain name
- (c) Username (d) Password

5. Dream Weaver site ஐ உபயோகிக்கும் பயனாளிகள் குறைந்தபட்சம் இவற்றில் எந்த இரண்டை கையாள வேண்டும்.

- (அ) Domain name / IP address
- (ஆ) Login / password
- (இ) Site name / home page
- (ஈ) Site name / root folder

In order to define a Dreamweaver site, users must set at a minimum two values

- (a) Domain name / IP address
- (b) Login / password
- (c) Site name / home page
- (d) Site name / root folder

6. Web access என்ற program _____
வளையதளத்தை ஆய்வு செய்ய உதவுகிறது.

- (அ) visitor
- (ஆ) hacker
- (இ) programmer
- (ஈ) இவை அனைத்தும்

Webaccess is a program available to analysis the _____ to site.

- (a) visitor
- (b) hacker
- (c) programmer
- (d) All of these

7. வளையதளத்தினை உபயோகப்படுத்தும் போது _____ தகவல்களை Web server, Web browserக்கு அனுப்புகிறது.

- (அ) FTP
- (ஆ) Cookies
- (இ) http
- (ஈ) hmtl

_____ are messages that web servers pass to your web browser when you visit Internet sites.

- (a) FTP (b) Cookies
(c) http (d) html

8. E-Commerce ன் வேறு பெயர்

- (அ) email commerce
(ஆ) electronic commerce
(இ) electronic common
(ஈ) easy commerce

Ecommerce, also known as _____.

- (a) email commerce
(b) electronic commerce
(c) electronic common
(d) easy commerce

9. World Wide Web ல் கலந்துரையாடல் செய்யும் அல்லது வளைதள தகவல்களை வெளியிடும் website _____.

- (அ) homepage
(ஆ) dynamic page
(இ) blog
(ஈ) இவற்றில் ஏதும் இல்லை

A _____ is a discussion or informational website published on the World Wide Web.

- (a) homepage (b) dynamic page
(c) blog (d) none of these

10. Malicious party இருக்கும் போது _____ attack வரும்.

- (அ) spoofing (ஆ) download
(இ) upload (ஈ) இவை அனைத்தும்

A _____ attack is when a malicious party.

- (a) spoofing (b) download
(c) upload (d) All of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (அ) PSTN பற்றி குறிப்பு வரைக.

Write about PSTN.

Or

(ஆ) இணையதளத்தின் நன்மைகள் யாவை?

What are the advantage of Internet?

12. (அ) மின் அஞ்சலின் (E-Mail) நன்மைகளைப் பற்றி எழுதுக.

What are the advantages of E-Mail?

Or

- (ஆ) Domain Name System பற்றி விரிவாக எழுதவும்.

Explain Domain Name System.

13. (அ) Front Page மற்றும் Dream Weaver பற்றி விவரிக்கவும்.

Discuss about Frontpage and Dreamweaver.

Or

- (ஆ) Hosting என்றால் என்ன? விரிவாக எழுதுக.

What is Hosting? Explain.

14. (அ) Cookie என்றால் என்ன? Cookieயின் பணிகளை என்ன என்பதை விளக்குக.

What is a cookie and what does it do?

Or

- (ஆ) E-commerce யின் எதிர்காலம் என்ன என்பதை விவரிக்கவும்.

What are the future of E-Commerce?

15. (அ) Social Networks பற்றி குறிப்பு எழுதுக.

Discuss about Social Networks.

Or

(ஆ) Hacking பற்றி விரிவாக எழுதுவும்.

Explain about Hacking.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (அ) Client/Server தொழில்நுட்பம் பற்றி விரிவாக எழுதுவும்.

Explain Client/server technology.

Or

(ஆ) Voice over IP பற்றி விரிவாக எழுதுவும்.

Discuss about Voiceover IP.

17. (அ) Mail transfer Protocol என்றால் என்ன?

What is Mail transfer protocol? Explain.

Or

(ஆ) Internet access யின் பல்வேறு வகைகளை விரிவாக எழுதுக.

Write about types of internet access.

18. (அ) Visitor Analysis என்றால் என்ன? விரிவான விடை எழுதுக.

What is the mean of Visitor analysis?

Or

(ஆ) .NET மற்றும் GIF Animator யின் செயல்பாடுகளை விரிவாக எழுதுக.

Write about the function of .net and GIF animator in web development.

19. (அ) E-Commerce பற்றி விரிவாக எழுதவும்

Write in detail about E-Commerce.

Or

(ஆ) M-Commerce பற்றி விடையளிக்கவும். E-Commerce மற்றும் M-Commerce யின் முக்கியமான பிரச்சனைகளை விவரிக்கவும்.

Write in details about M-Commerce. What are the major issues of E-Commerce and M-Commerce?

20. (அ) Internet ல் Blog என்றால் என்ன? Blogs பயன்பாடுகள் என்ன என்பதை விவரிக்கவும்.

What is Blogs in Internet? What are the uses of blogs?

Or

- (b) Firewall பற்றி விரிவாக எழுதவும்.

Discuss about Firewall.

(6 pages)

Reg. No. :

Code No. : 41323 E Sub. Code : SMCS 31

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Science — Main

JAVA PROGRAMMING

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is a valid declaration of an object of class colg?
 - (a) `colg obj = new colg();`
 - (b) `colg obj = new colg;`
 - (c) `colg = new colg()`
 - (d) `new obj colg;`

2. What is the return type of a method that does not return any value?
(a) int (b) float
(c) void (d) double
3. What is the process of defining a method in terms of itself, that is a method calls itself?
(a) polymorphism (b) abstraction
(c) recursion (d) encapsulation
4. The keyword _____ can be used to prevent method over riding.
(a) static (b) constant
(c) protected (d) final
5. _____ is used to generate an exception explicitly.
(a) try (b) finally
(c) catch (d) throw
6. Which of the following decides thread priority?
(a) process
(b) process scheduler
(c) thread
(d) thread scheduler

7. Which of these package contains all the classes and methods required for event handling in Java?
- (a) java.applet
 - (b) java.awt
 - (c) java.event
 - (d) java.awt.event
8. itemStateChanged() method is defined in _____ interface.
- (a) component listener
 - (b) container listener
 - (c) action listener
 - (d) item listener
9. _____ are passive controls that do not support any interaction with the user.
- (a) choice (b) list
 - (c) labels (d) check box
10. Which is used to store data and partial results, as well as to perform dynamic linking, return values for methods and dispatch exceptions?
- (a) window (b) panel
 - (c) frame (d) container

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What do you mean by object and class? Explain and give examples.

Or

- (b) What is a constructor? What are its special properties? How do we invoke a constructor?

12. (a) Describe, how to use objects as parameters with an example program.

Or

- (b) Discuss about access control.

13. (a) What are interfaces? Explain.

Or

- (b) How will you create a thread? Discuss.

14. (a) Describe Applet Architecture.

Or

- (b) Illustrate passing parameters to applet.

15. (a) Describe the use of AWT control labels.

Or

- (b) Explain the use of flow layout.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the features of automatic type promotion in expressions and arrays.

Or

- (b) Illustrate
- (i) Finalize () method
 - (ii) Primary data types.

17. (a) Explain about
- (i) Nested and inner classes
 - (ii) Basics of inheritance.

Or

- (b) With an example program, explain method overriding.

18. (a) Describe the features of exception handling.

Or

- (b) What is packages? Explain its access protection and how will you import packages.

19. (a) Describe event handling mechanisms and event classes in detail.

Or

- (b) Explain sources of events and event listener interfaces in detail.
20. (a) (i) What do you understand about AWT classes?
(ii) Explain working with frame windows and graphics.

Or

- (b) Explain the usage of AWT controls
- (i) Buttons
 - (ii) Check boxes
 - (iii) Choice controls
 - (iv) Text editing
-

Reg. No. :

Code No. : 41326 E Sub. Code : SSCS 3 A

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Science

Skill Based Subject — PROGRAMMING WITH PHP
AND MY SQL

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is not a type of operator in php?
 - (a) Boolean
 - (b) Null
 - (c) String
 - (d) None of these

2. The statement _____ is used to exit the loop statement.
 - (a) break
 - (b) exit
 - (c) continue
 - (d) for

3. _____ means a function calls itself.
- (a) Nesting (b) Recursion
(c) Static (d) Void
4. The array() construct with _____ arguments create empty array.
- (a) 0 (b) 1
(c) 2 (d) 3
5. _____ function is used to delete the file.
- (a) unlink() (b) del()
(c) delete() (d) delfile()
6. File size returns the size of file in _____.
- (a) Integer (b) Float
(c) Bytes (d) Boolean
7. Which of the following are data types in mysql?
- (a) small int() (b) int()
(c) big int() (d) all of these
8. The descending order is displayed using the _____ function.
- (a) asec (b) desc
(c) reve (d) read
9. die() function _____ the scripts.
- (a) delete (b) terminate
(c) create (d) involve

10. Which function is used to set display size of time?
(a) Time stamp() (b) Time()
(c) Date time() (d) Data()

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the features of PHP?
Or
(b) Discuss about if statement in PHP.
12. (a) How to store data in Arrays?
Or
(b) Find the perimeter of a rectangle using function in PHP.
13. (a) How to read a file?
Or
(b) Discuss about locking file in PHP.
14. (a) Explain group by command in mysql.
Or
(b) Discuss about full text searching in mysql.
15. (a) Write the procedure to connect php with mysql.
Or
(b) Discuss about Date and Time data types in mysql.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the operators available in PHP? Explain.

Or

- (b) Explain loop statement in php.

17. (a) Explain any five array function with example.

Or

- (b) Discuss about creating and invoking function in php.

18. (a) What is the use of fseek command in php?

Or

- (b) Explain :

(i) fgets()

(ii) fgetc().

19. (a) What is sorting? Explain data sorting in mySQL.

Or

- (b) Discuss about aggregate function in mySQL.

20. (a) How the errors are handled in mySQL and php?

Or

- (b) Explain numeric datatypes in mySQL.