

SARDAR PATEL UNIVERSITY

F.Y.B.C.A. (Semester - II) (2010 Batch) EXAMINATION March – 2017 (NC)

US02CBCA01 : Advanced C Programming and Introduction to Data Structures

Date:18/03/2017, Saturday

Time: 02:00 to 05:00

Total Marks : 70

Q.1 Multiple choice questions:

[10]

1. Which of the following is not a C memory allocation function?
(a) malloc() (b) calloc()
(c) realloc() (d) alloc()
2. Which of the following is not a derived data type?
(a) Arrays (b) Float
(c) Structure (d) Pointers
3. Which of the following can be used to create a new type that can be used anywhere a type is permitted?
(a) typedef (b) array
(c) struct (d) Both struct and typedef
4. Which one of the following is valid for opening a file for only reading?
(a) fopen (filenm, "r"); (b) fopen (filenm, "ra");
(c) fopen (filenm, "r"); (d) fopen (filenm, "read");
5. The term "push" and "pop" is related to the?
(a) array (b) queue
(c) stacks (d) All of these
6. Two dimensional arrays are also called?
(a) tables arrays (b) matrix arrays
(c) both A and B (d) None of these
7. A data structure that contains not only a data field but also contains pointer field is known as _____.
(a) Queue (b) Tree
(c) Stack (d) Linked List
8. What are two predefined FILE pointers in C?
(a) stdout and stderr (b) console and error
(c) stdio and stderr (d) stdout and stdio
9. A data structure in which insertion and deletion of an elements occurs at only one end is known as _____.
(a) Queue (b) Stack
(c) Tree (d) Graph
10. Which of the following statement is FALSE for the Queue data structure?
(a) Its nature is LIFO (b) Its nature is FIFO
(c) It is a non- primitive data structure (d) It is a Linear data structure

- Q.2 Attempt any six out of eight. [12]
1. List out operations that can be performed on pointers.
 2. Differentiate '.' and '->' operators.
 3. Differentiate: getc and getchar
 4. Explain the fclose() function with example.
 5. What do you mean Linear Data Structure?
 6. List out different applications of data Structure.
 7. State various Applications of Linked List.
 8. Define: Queue and Deque.
- Q.3 (a) Write a note on Dynamic memory allocation. [5]
 (b) Write note on: pointer to pointer [3]
- OR
- Q.3(a) Define pointer variable. How can we declare and initialize pointer variable? How can we access value of variable through pointer type variable? [5]
 (b) Explain pointer to structure using suitable example. [3]
- Q.4 (a) What is union? Explain its definition, declaration and assigning values to members of union. [4]
 (b) Explain pointer to structure array using appropriate example. [4]
- OR
- Q.4(a) What is structure? Explain its definition, declaration and assigning values to members of structure. [4]
 (b) Write note on: structure within structure [4]
- Q.5 Explain the all the modes of file management with example. [8]
- OR
- Q.5 Explain the getc, putc, getw and putw function with example. [8]
- Q.6 (a) Explain the data structure with c briefly. [4]
 (b) Write a short note on primitive data structure operations. [4]
- OR
- Q.6 (a) Explain the linear and non linear data structure briefly. [4]
 (b) Write down advantages of data structure. [4]
- Q.7 (a) Write an algorithm to insert an element at the beginning of a Singly linked list. [4]
 (b) Write a short note on Singly linked List. [4]
- OR
- Q.7(a) Write an algorithm to insert an element at the ending of a Singly linked list. [4]
 (b) What is linked list? Explain types of linked list. [4]
- Q.8 (a) Explain a STACK with an example of various operations. [6]
 (b) Define: Circular Queue and Priority Queue. [2]
- OR
- Q.8(a) Explain a QUEUE with an example of various operations. [6]
 (b) Differentiate: peep and change operation. [2]

SARDAR PATEL UNIVERSITY
 B.C.A Semester - II (Reg. & NC)
 (CBCS) June - 2011 BATCH Onwards
 Thursday, Date: 30th March 2017

Session: Morning Time : 10:00 A.M. to 1:00 P.M.

Subject Code: US02CBCA01

Subject Title : Advanced 'C' Programming and Introduction to Data Structures

Total Marks: 70

Q1. Multiple Choice Questions. (Attempt all) [10]

1. Which operator is used declare pointer variable.

A. Selection (->).	C. Assignment (=)
B. Indirection (*)	D. Dot (.)
2. Which of the following can be used to create a new type that can be used anywhere a type is permitted?

A. union	C. typedef
B. pointer	D. struct
3. Which of the following allows a portion of memory to be shared by different types of data?

A. Union	C. File
B. Structure	D. Array
4. To open file only for reading purpose, _____ mode is specified in fopen() function.

A. r	C. a
B. rw	D. w
5. Which of the following data structure store all the elements of same data type?

A. Structure	C. Union
B. File	D. Array
6. Which of the following is not the operation of stack?

A. Push	C. Peep
B. Pop	D. Delete
7. In Stack , elements are inserted & deleted from _____.

A. TOP	C. Both A and B
B. BOTTOM	D. None of these.
8. A linked list in which last node pointing to the first node is known as _____.

A. Singly linked list	C. Doubly Linked list
B. Circular linked list	D. None of the above
9. Data structure in which insertion and deletion of an elements occurs at opposite the end is known as _____.

A. Stack	C. Queue
B. Array	D. Linked List
10. Front and Rear pointers are related to _____ data structure.

A. Linked list	C. Stack
B. Array	D. Queue

(1)

(P.T.O)

- Q2. Answer the following short questions (Attempt any TEN) [20]**
1. List different pointer declaration style. Which one is preferable?
 2. List benefits of pointers.
 3. Define a structure called "student" consisting of integer members called weight and height, character string called name. Declare structure variable called stud1 along with definition.
 4. State purpose of getw() & putw() functions.
 5. What is dynamic memory allocation?
 6. State different file modes available to manage the files in C.
 7. State various applications of Stack data structure.
 8. List the examples of Non-Primitive Data Structures.
 9. Draw the representation of Stack data structure. What is TOP?
 10. State various types of Queue.
 11. Explain structure of typical node of a linked list with diagram.
 12. State various applications of Queue.
- Q3. a. Define pointer variable. Explain how to declare and initialize pointer variable? [05]**
Also explain how to access value of variable through pointer type variable?
- b. Write a note on Dynamic memory allocation. [05]**
- OR**
- Q3. a. Explain the concept of pointer-to-pointer with example. [05]**
- b. Explain valid & invalid operations of pointer arithmetic. [05]**
- Q4.a. What is Structure? Explain general form of structure definition, declaration of structure type variable and accessing structure members with suitable example. [06]**
- b. Explain the purpose, syntax and example of functions getc() and putc(). [04]**
- OR**
- Q4.a. Differentiate between: Structure and Union. [06]**
- b. Explain the purpose, syntax and example of functions fopen() and fclose(). [04]**
- Q5.a. Write an algorithm for PUSH and POP operations on stack. [06]**
- b. What do you mean Linear Data Structure? List few examples and explain any one in brief. [04]**
- OR**
- Q5.a. Write an algorithm for PEEP and CHANGE operations on stack. [06]**
- b. Draw the Hierarchical Structure of Data Structure. List the main operations that can be performed on Data Structure with its use? [04]**
- Q6. What is Linked list ? Write an algorithm to insert an element at the beginning into a Singly linked list. [10]**
- OR**
- Q6. What is Queue ? Write an algorithm to insert an element in a Queue. [10]**

(25 & A-14)

No. Of Printed Pages : 2

SEAT No.

SARDAR PATEL UNIVERSITY

[25/A-14]

BCA EXAMINATION, 2nd SEMESTER

Friday, 31st March, 2017

10:00 am to 1:00 pm

US02CBCA02 [System Analysis and Design]

Maximum Marks: 70

- Q-1 Multiple Choice Question.[Each Question carries one Mark] [10]
- 1) In a five sub system, the maximum number of interface are _____.
A. 8 B. 10
C. 12 D. 15
 - 2) The procedure for computerizing outside problem is made more complex by a large area which can be called _____.
A. Para computing B. System
C. System Implementation D. System Study
 - 3) _____ is nothing but feedback for the system.
A. Problem Identification B. Feasibility Study
C. Implementation D. Evaluation
 - 4) The _____ is contains a list of terms and their definitions for all data items and data stores of a system.
A. Data Dictionary B. DFD
C. Decision Table D. Decision Tree
 - 5) _____ is an organized step by step tracing through of a design by group of people.
A. Structured Walk Through B. Structured Design
C. Maintenance D. System Analysis
 - 6) _____ is the process of writing the instructions to be read and executed by the computer.
A. Testing B. Programming
C. Conversion D. Documentation
 - 7) _____ is the collection of data at its source.
A. Original Recording B. Verification
C. Control D. Sorting
 - 8) _____ can look for operational inefficiencies.
A. Interview B. Questionnaires
C. Record Review D. Observation
 - 9) The DFDs that show "How the process is going on" is known as _____ DFDs.
A. Physical B. Logical
C. Physiological D. None of these
 - 10) _____ tool automate the preparation of computer software.
A. Diagramming Tools B. Code Generator
C. Interface Generator D. Management Tools

[PTO]

①

- Q-2 Give Answers for the following:(Any ten) [20]
- 1 Define :- Boundary and Environment.
 - 2 Draw the general model of a system.
 - 3 Write difference between open and close system.
 - 4 Explain system survey.
 - 5 Explain hardware study.
 - 6 List all methodology of SSADM.
 - 7 What do you mean by fact gathering technique?
 - 8 Explain Data Transmission.
 - 9 List steps of data capture process.
 - 10 Draw the context level DFD of Railway Reservation system.
 - 11 List Components of CASE.
 - 12 List Weakness of CASE.

Q-3 A) A system analyst is a change of agent, motivator, an organizer, an architect and an intelligent sales person. Explain it. [5]

B) Explain Interface. [5]

OR

Q-3 A) Explain Problem Identification. [5]

B) Write difference between system analysis and system design. [5]

Q-4 A) Explain need for structured analysis and design. [5]

B) Write difference between one time cost and recurring cost. [5]

OR

Q-4 A) System implementation consists of system acquisition, programming, testing, conversion and documentation. Explain it. [5]

B) Write short note on documentation. [5]

Q-5 A) What is Data Capture? State objectives of Data Capture. [5]

B) Explain Interview in detail. [5]

OR

Q-5 A) Explain check digit method (or Modulus – 11 check digit method) with example. [5]

B) Explain Record Review. [5]

Q-6 What is CASE? Explain any three components of CASE. [10]

OR

Q-6 What is DFD? Draw the symbols used in DFD. Write rules for constructing DFD and Draw the DFD for College Payroll System.[Context and zero level only]. [10]

- Q.2 Attempt any six out of eight. [12]
1. Define system.
 2. Differentiate between open system and closed system.
 3. Draw diagram of system design.
 4. Explain Maintenance in short
 5. Draw the figure of SSADM
 6. What is Data Transmission?
 7. Draw the context level diagram for College Rayroll System.
 8. What do you mean by CASE Tools?
- Q.3 (a) Explain the elements of system. [5]
 (b) Explain the role of System Analyst. [3]
- OR
- Q.3(a) List the types of systems. Give some examples of each system. [5]
 (b) List system concepts. Explain the term 'Feedback'. [3]
- Q.4 (a) What is SDLC? List and explain the steps in 2 or 3 lines. [4]
 (b) Differentiate between System analysis and System design. [4]
- OR
- Q.4(a) Write a short note on " System requirements analysis". [4]
 (b) What are the need of "Feasibility study"? Explain Economic feasibility. [4]
- Q.5 (a) Explain Structured Analysis in brief [4]
 (b) What are the advantages of SSADM? [4]
- OR
- Q.5(a) Explain structured design in brief [4]
 (b) What do you mean by SSADM ? Why it is required? [4]
- Q.6 (a) Write a note on Data validation [4]
 (b) Explain Questionnaires [4]
- OR
- Q.6(a) Explain objectives of output and input design [4]
 (b) Write a note on interview. [4]
- Q.7 Define DFD , Symbols used in DFDs and Rules to be followed in DFD construction. [8]
- OR
- Q.7 Draw the context and first level DFDs of Railway reservation System. Also Draw process hierarchy chart of it. [8]
- Q.8 (a) List and Explain Case Components [5]
 (b) Explain Diagramming and Management Tools [3]
- OR
- Q.8 (a) Explain Code Generator. [5]
 (b) What are the limitations of CASE Tools [3]

(25 & A-12)

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

B.C.A. - II SEMESTER (CBCS)

US02CBCA03 : Database Management Systems

Date : 01/04/2017, Saturday

Time: 10:00 AM to 1:00 PM

Max Marks : 70

Q:1 Write answers of following Multiple Choice Questions :

[10]

- [01] The meaningful data is called _____.
- (A) Information (B) DBMS
(C) Database (D) None of these
- [02] The default data type of FoxPro is _____.
- (A) Number (B) Character
(C) Date (D) Memo
- [03] Which command is used to delete record logically in FoxPro?
- (A) PACK (B) DELETE
(C) ZAP (D) RECALL
- [04] The _____ command is used to search any record from database file.
- (A) Find (B) Seek
(C) Search (D) Locate
- [05] The _____ command is used to position the record pointer on the first record.
- (A) GO TO (B) GO TOP
(C) Go BOTTOM (D) None of these
- [06] The default extension of program file is _____.
- (A) .prg (B) .frx
(C) .idx (D) None of these
- [07] The _____ is the output of $\text{mod}(125, 3)$
- (A) 1 (B) 2
(C) 3 (D) 4
- [08] The _____ command is used to halt the FoxPro operation.
- (A) Wait (B) Skip
(C) Display (D) None of these
- [09] The _____ is the extension of FoxPro Report.
- (A) .prg (B) .lbr
(C) .frx (D) None of these
- [10] A _____ command is used to display the various menu options.
- (A) @ say (B) @ get
(C) @ Prompt (D) None of these

Q:2 Answer the following short questions : Attempt Any Ten

[20]

[01] What is DBMS? Give Example of DBMS.

[02] List Disadvantages of DBMS.

(P.T.O.)

1

Q.2 Answer the following questions in short. (Any 10)

20

- 1) List the advantages of Client-side scripting
- 2) What is DHTML? Explain it.
- 3) What is Server-side Scripting?
- 4) Explain the font-family CSS property taking an example.
- 5) What is a Style sheet? Explain in short.
- 6) In what ways can color values be specified?
- 7) Write a note on Assignment operator.
- 8) Explain about Prompt dialog box. (with example).
- 9) Explain the isNaN() method.
- 10) Explain back() with an example.
- 11) Explain href() with an example.
- 12) Explain "onclick" event with an example

Q.3(A) Write a short note on Components of DHTML. 06

(B) Write a short note on Uses of DHTML. 04

OR

Q.3(A) Write a note on Client-side scripting stating the advantages and disadvantages of it. 06

(B) Write a short note on DHTML. 04

Q.4 Write a note on the various ways of including a style sheet in HTML. 10

OR

Q.4 Write a note on Font, Text and Background properties in CSS. 10

Q.5(A) Write a note on Looping constructs in Javascript. 06

(B) Explain the basic data types in Javascript. 04

OR

Q.5(A) Write a note on Conditional Constructs in Javascript. 06

(B) Explain Logical operator in Javascript. 04

Q.6(A) What is Event? What is Event Handling? How you handle the event – explain with an example. 06

(B) Explain Window object in detail. 04

OR

Q.6(A) Draw and discuss the structure of DOM 06

(B) Explain images collection in detail. 04

*****BEST LUCK*****

(26)

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

B.C.A. (Sem.- II) EXAMINATION

DATE: 01/04/2017, SATURDAY

TIME: 10:00 A.M. To 01:00 P.M.

US02CBCA06 - Database Management Systems using Open Office Base

Total Marks: 70

Q-1 Select an appropriate option.

[10]

1. _____ is not an example of database.
(a) Super store system (b) Program (c) Dictionary (d) Telephone Directory
2. The data contain in the database is both accurate and consistent is called _____.
(a) Data Consistency (b) Data Redundancy
(c) Data Integrity (d) Data Independency
3. In DBMS _____ is the column under which information is stored.
(a) Field (b) Data (c) Record (d) None of these
4. Which of the following operation cannot be performed on a record in database?
(a) Insert (b) Update (c) Delete (d) Hide
5. Which of the following is not an object maintained by Base?
(a) Tables (b) Queries (c) Charts (d) Forms
6. _____ returns the first count characters from the beginning of the String.
(a) SUBSTR() (b) LEFT () (c) RIGHT () (d) CHAR()
7. _____ returns the absolute value of a number, removing a minus sign.
(a) ABS() (b) MOD () (c) POWER() (d) SQRT()
8. Which of the following feature of Base is used to retrieve specific information from the database?
(a) Table (b) Form (c) Query (d) Report
9. Which delimiter is used to surround the text in a query criterion?
(a) # (hase) (b) ' (single quote) (c) " (double quote) (d) \$ (dollar)
10. The _____ can be used for displaying meaningful names for the fields.
(a) Alias (b) Table (c) Sort (d) Function

Q-2 Answer the following questions. (Any Ten)

[20]

1. What is DBMS? Give Example of DBMS.
2. Explain Data Independency.
3. What is Subform?
4. List down different Controls which are use to design form. Explain any one.
5. Which different ways to create a query?
6. Explain LENGTH() function with example.
7. Which operators are used to set criteria in query?
8. Explain SQRT() function with example.
9. What are queries in Base? Why do we design queries?
10. Explain RTRIM() function with example.
11. What is Report?
12. Write a brief note on Data Dictionary.

- Q-3 A. Write down the advantages of DBMS.
B. Write a note on Database Life Cycle.

[5]

[5]

OR

- Q-3 A. Write detail note on Structure of DBMS.
B. List & define Aims of database technology.

[5]

[5]

- Q-4 A. What is Data Type? List and explain data types available in Base.
B. List down different controls use to create form and explain any two.

[5]

[5]

OR

- Q-4 A. What are forms? How to create forms. Write down their steps.
B. What do you mean by relations in Base?

[5]

[5]

- Q-5 Explain any five String functions by taking appropriate example.

[10]

OR

- Q-5 Explain any five Mathematical functions by taking appropriate example.

[10]

- Q-6 A. Write steps to create Report using Wizard in detail.
B. How to apply criteria using single field in Query?

[5]

[5]

OR

- Q-6 A. Write steps to create Query using Design View in detail.
B. How to apply criteria using multiple fields in Query?

[5]

[5]

Best of luck

8. Explain Master Page.
9. List steps to attach existing text or graphic to a frame.
10. Write steps to open story editor.
11. Explain PageMaker template.
12. Write steps to rotate an object.

- | | | | |
|-----|-----|---|------|
| Q.3 | [A] | Define PageMaker. Explain advantages of Adobe PageMaker. | [06] |
| | [B] | Describe Key features of PageMaker. | [04] |
| OR | | | |
| Q.3 | [A] | Explain the need of Desktop Publishing. | [06] |
| | [B] | Describe Graphics and Desktop Publishing. | [04] |
| Q.4 | | Explain all modes of Control Palette. | [10] |
| OR | | | |
| Q.4 | | Describe Style Palette along with its advantages. | [10] |
| Q.5 | [A] | Explain Table feature of PageMaker. | [05] |
| | [B] | Write steps to apply different master pages to different pages in the document. | [05] |
| OR | | | |
| Q.5 | [A] | Write steps to apply same master page to several pages throughout the document. | [05] |
| | [B] | Explain frame facility of PageMaker. | [05] |
| Q.6 | [A] | Explain sorting page process in PageMaker. | [05] |
| | [B] | Explain different elements of layer palette. | [05] |
| OR | | | |
| Q.6 | [A] | Explain Story Editor. | [05] |
| | [B] | How to import and export graphics in PageMaker? | [05] |

*** All the Best ***

— X —

②

(6A & A-10)

Seat No.: _____

No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY
FYBCA (Semester-II) Examination (CBCS)
RDBMS for Small Scale Organization (US02EBCA02)

Date: 28/03/2017 (Tuesday)

Time: 10:00 AM to 12:00 Noon

Marks: 70

Q.1 Choose the correct answer from the given options.

[10]

- (1) RDBMS stands for _____.
A. Relational Database Management System B. Rigid Data Module System C. Right Data Base Management System D. None of these
- (2) One of the RDBMS Package is _____.
A. Excel B. Power Point C. Access D. Word
- (3) Memo field in database file is used to _____.
A. Store lengthy number B. Store images C. Store audio files D. Store long textual information
- (4) SQL stands for _____.
A. Simple Query Language B. Structured Query Language C. Small Query Language D. None of these
- (5) The _____ presents data in a way similar to an Excel spreadsheet.
A. Design view B. Datasheet C. Print view D. Layout view
- (6) Column in a Microsoft Access table is called _____.
A. Row B. Field C. Cell D. Record
- (7) _____ are used for many purposes like mailing addresses, name tags, disk labels, and book-plates.
A. Table B. Module C. Label D. Report
- (8) A _____ is a list of one or more actions that work together to carry out a particular task in response to an event.
A. Macro B. Module C. Report D. Chart
- (9) The _____ is a general term synonymous with question or inquiry.
A. Table B. Record C. Query D. Form
- (10) _____ enhances data presented in forms and reports by summarizing the information and illustrating it in easily understood ways.
A. Table B. Chart C. Report D. Label

(P.T.O.)

1

- Q.2 Attempt Any Ten Questions. [20]**
- (1) Explain steps to starting access and opening a database.
 - (2) What is Relational Database?
 - (3) Explain in brief different methods to create table in access.
 - (4) Describe in brief how data can be entered in a table.
 - (5) Explain editing and deleting records from tables.
 - (6) Explain different ways for sorting on a single field.
 - (7) Define Query.
 - (8) Explain types of views in query.
 - (9) Write down steps to run and save query.
 - (10) Why mailing labels are used?
 - (11) What is chart?
 - (12) What is macro?
- Q.3 What is RDBMS? Explain all data types supported by MS Access. [10]**
OR
- Q.3 What do you mean by small scale organization? Why they use RDBMS? Explain different types of objects used by small scale organization in a database. [10]**
- Q.4 Explain one-to-one, one-to-many, and many-to-many relationships between tables. List steps to implement each of these relationships in MS Access. [10]**
OR
- Q.4 (A) What is Primary Key? Explain in detail. [05]**
(B) What is Reference Key? What are the limitations on data manipulation when Referential Integrity is implemented between parent and child table. [05]
- Q.5 What is Query? Explain Query Design Toolbar in detail. [10]**
OR
- Q.5 Write a short note on following database objects: (i) Form and (ii) Report. [10]**
- Q.6 (A) What is Chart? Explain different types of charts in brief. [05]**
(B) What is Label? Explain the process to create labels in brief. [05]
OR
- Q.6 (A) Explain steps to import data from text file into access database. [05]**
(B) Explain steps to export data to text file from access database. [05]

**** Good Luck *****

P.T.O.

— X —
②

(7A & A-11)

Seat No.: _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

F.Y.B.C.A. (Sem- 2)

US02EBCA03: MIS

Date: 28-3-2017,

Time : 10.00 am – 12.00 pm

Marks: 70

Tuesday

Management Information Systems

Q-1 Select the correct option.

10

- (1) Information is _____.
A. Data
B. Processed Data
C. Manipulated input
D. Computer output
- (2) Operational information is needed for _____.
A. Day to day operations
B. Meet government requirements
C. Long range planning
D. Short range planning
- (3) What is the Full form of EDP?
A. Executive Data Processing
B. Electronic Detailed Planning
C. Executive Date Planning
D. Electronic Data Processing
- (4) _____ emphasizing a fair degree of integration and a holistic View.
A. System
B. Information
C. Management
D. File
- (5) Transform the inputs into outputs are included in the _____.
A. CPU
B. system
C. process
D. transformer
- (6) The impact of computer science on organizational include _____.
A. staff-to-line ratio
B. job stress
C. psychological
D. none of these
- (7) Which function uses the information regarding the planned performance and actual performance to arrive at deviations?
A. Organizing
B. Staffing
C. Controlling
D. Directing
- (8) _____ systems involves the applications that are critical for future competitive success of the enterprise.
A. Strategic
B. Turnaround
C. Factory
D. Support
- (9) There are _____ basic approaches to security of any system of IT Infrastructure
A. 3
B. 2
C. 6
D. 4
- (10) For the Finance Discipline, _____ is a strategic Decision.
A. Payroll
B. Alternate Financing
C. sales Analysis
D. Production Bottleneck

- Q-2** Do as directed. (**ATTEMPT ANY TEN**) **20**
- (1) Define Information system
 - (2) Define Executive Information System
 - (3) List down the management support system.
 - (4) Define the following Terms: [A] Business and [B] System
 - (5) Explain features of BIS
 - (6) Discuss the limitations of MIS
 - (7) What is departmentation?
 - (8) Explain managerial jobs
 - (9) Explain input, process, and output
 - (10) Define following terms: [A] Strategic Decision & [B] Tactical decision
 - (11) Write a brief note on Decision Making Environment.
 - (12) Write a note on managerial decision making.

- Q-3** A Explain DSS in detail. **5**
 B Write a short note on Office automation system **5**

OR

- Q-3** A What is TPS? Explain it with its features. **5**
 B Define Expert System. Explain component of it **5**

- Q-4** A Write a short note on Typical MIS **5**
 B What is MIS? What is the importance of MIS? **5**

OR

- Q-4** A List down Business Functions. Explain Marketing function **5**
 B Write a short note on evaluation of MIS **5**

- Q-5** A Explain various managerial roles. **5**
 B Describe the system approach of organizational design. **5**

OR

- Q-5** A Explain all major organizational consideration **5**
 B Write a note on subsystem in organization. **5**

- Q-6** Explain the port folio approach of planning IT infrastructure **10**

OR

- Q-6** Why security is required for IT infrastructure? Explain the approaches of it **10**

All the best...

— ✕ —
 (2)

SARDAR PATEL UNIVERSITY
BCA (SEMESTER - II) EXAMINATION
Monday , 27th March,2017
MATHEMATICS : US02FBCA02
(Mathematics)

Time : 10:00 a.m. to 12:00 noon

Maximum Marks : 70

Que.1 Fill in the blanks.

10

- (1) Edges connecting the same end points are called
(a) trivial graph (b) multigraph (c) loops (d) multiple edges
- (2) The sum of the degrees of the vertices of a graph is the number of edges.
(a) greater than (b) less than (c) equal to (d) equal to twice
- (3) The diameter of complete graph K_n is
(a) $n - 1$ (b) 1 (c) $2n$ (d) n
- (4) In a map, the total degrees of the regions =
(a) $3e$ (b) e (c) $2e + e$ (d) $2e$
- (5) The chromatic number of graph K_{120} is =
(a) 60 (b) 30 (c) 20 (d) 120
- (6) In a connected map with $R = 11, E = 27$ then $V =$
(a) 20 (b) 19 (c) 36 (d) 18
- (7) $\binom{n}{n-7} =$
(a) $\binom{n}{n+7}$ (b) $\binom{n}{n}$ (c) $\binom{n}{7}$ (d) $\binom{n}{0}$
- (8) We can select four objects from the given 9 objects in ways.
(a) $\binom{4}{9}$ (b) $\binom{9}{4}$ (c) $\frac{9!}{4!}$ (d) $\frac{9!}{5!}$
- (9) The quartile Q_2 is coincides with
(a) Mean (b) Mode (c) Median (d) Standard deviation
- (10) Bowleys coefficient of skewness is defined as
(a) $\frac{Q_3 + Q_1 - 3Q_2}{Q_2 - Q_1}$ (b) $\frac{Q_3 - Q_1 + 3Q_2}{Q_3 - Q_1}$ (c) $\frac{Q_3 + Q_1 - 2Q_2}{Q_3 - Q_1}$ (d) None of these

Que.2 Answer the following (Any Ten)

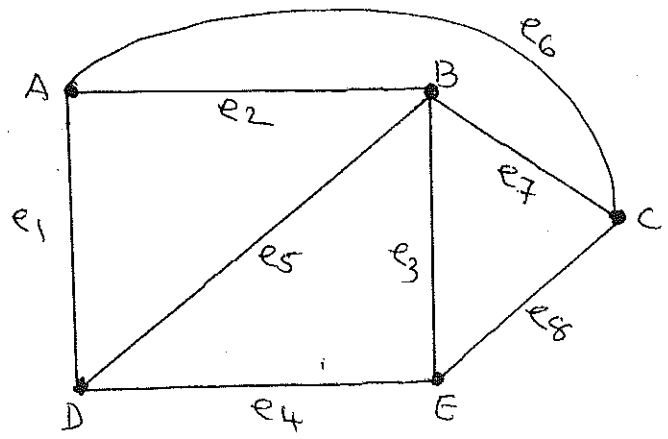
20

- (1) Draw a graph $G_2 = (V_2, E_2)$, where $V_2 = \{P, Q, R, S, T\}$ and $E_2 = \{PQ, PR, PS, PT, TR, PR\}$. Is it simple ?
- (2) For sequence of vertices $abcefcdba$, state whether or not it represents a trail, path, closed walk or cycle in the graph illustrated.
- (3) Define the terms simple path and full subgraph with example .
- (4) Define spanning tree and give an example of graph with three spanning trees .
- (5) Find the E using Eulers formula for the connected planar multigraph having $V = 5, R = 3$
- (6) State Welch-Powell algorithm for painting a graph and give one example of it.
- (7) Write $\frac{n(n-1)(n-2)(n-3)\dots(n-r+1)}{1.2.3.4\dots r}$ in terms of factorial
- (8) Find n , if $P(n, 4) = 42 P(n, 2)$.

- (9) Find the number of five letter words which contain three different consonants and two different vowels.
- (10) Simplify $\frac{(n-r+1)!}{(n-r-1)!}$.
- (11) Define Karl Pearsons coefficient of correlation and state its properties.
- (12) Explain the linear regression and state its properties.

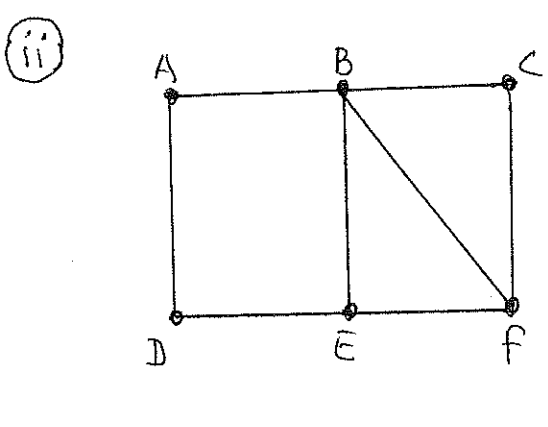
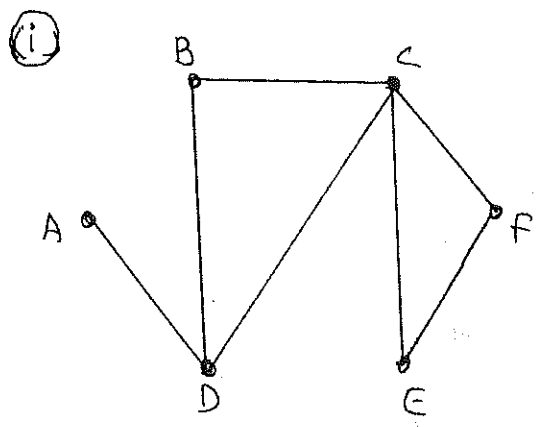
Que.3 (a) Find the incidence matrix and adjacency matrix for the following graph .

5



(b) Define bridge and cut points. Find bridge and cut points for the following graph.

5



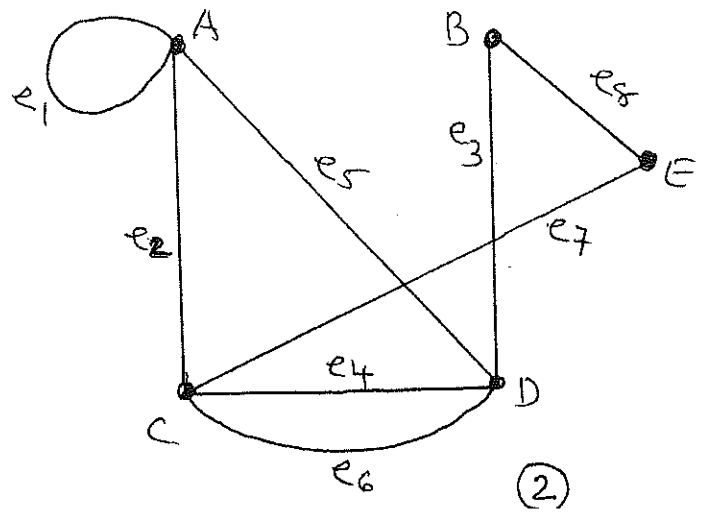
OR

Que.3 (a) Define complete graph. Draw complete graph with seven vertices and eight vertices.

5

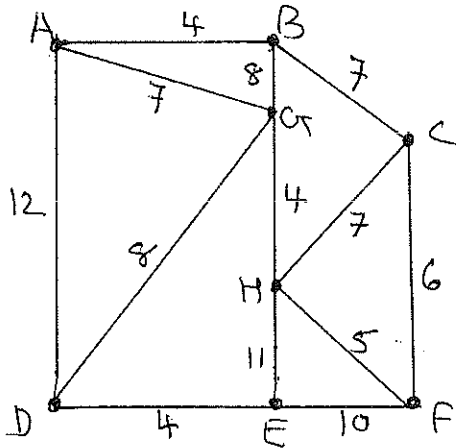
(b) Find the incidence matrix and adjacency matrix for the following graph.

5



Que.4 (a) Find the number of spanning trees in each of the following graph. Also find minimal spanning tree.

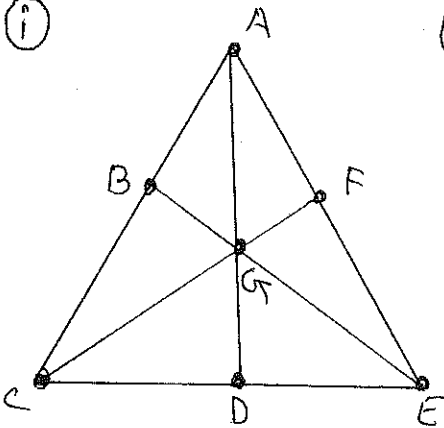
5



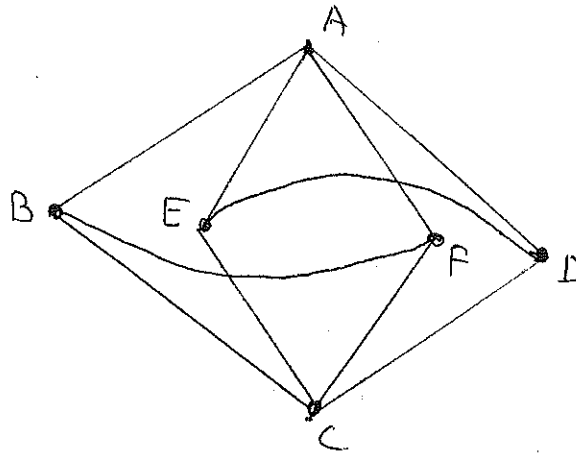
(b) What do you mean by the chromatic number of the graph? Determine the chromatic number of each of the following graphs.

5

(i)



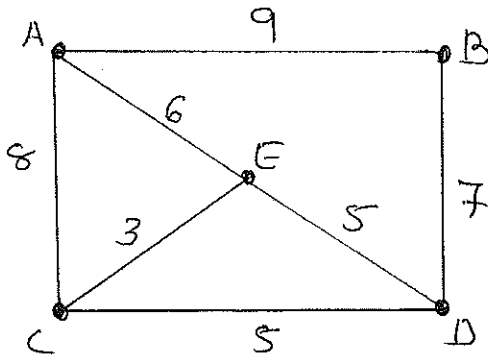
(ii)



OR

Que.4 (a) Find the number of spanning trees in each of the following graph. Also find minimal spanning tree.

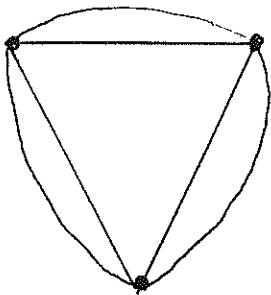
5



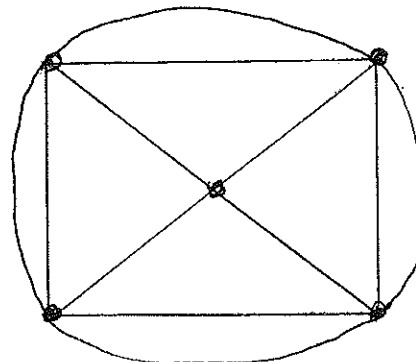
(b) Verify Eulers formula for the following graphs.

5

(i)



(ii)



(3)

(P.T.O)

