This question paper contains **3** printed pages]

GF—31—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (Second Semester) EXAMINATION

APRIL/MAY, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(8085 Microprocessor)

(Friday, 28-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) Explain Opcode and Operand.

(*b*) Address and Data Bus of 8085 microprocessor.

(*c*) Register addressing mode.

P.T.O.

(*d*) Machine cycle.

(*e*) Registers of 8085 microprocessor.

(*f*) Interrupt signals of 8085 microprocessor.

(*g*) Implicit addressing.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain various features of microprocessor 8085.

(*b*) Explain internal block diagram of microprocessor 8085.

(*c*) Explain instruction format of microprocessor 8085 instructions.

(*d*) What is Direct addressing mode ? Explain any *two* instructions of direct addressing in microprocessor 8085.

(*e*) What is Indirect addressing mode ? Explain any *two* instructions of indirect addressing in microprocessor 8085.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain any *five* Data transfer group instructions of microprocessor 8085.

(*b*) Explain any *five* Arithmetic group instructions of microprocessor 8085.

(*c*) Explain the following instructions in detail :

(*i*) DAA

(*ii*) LHLD addr.

(*d*) Write an ALP program for microprocessor 8085 to add two 16-bit numbers.

(*e*) Write an ALP program for microprocessor 8085 to find largest number among two 8-bit numbers.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain any *five* Logical group instructions of microprocessor 8085.

(*b*) Explain any *five* Branch control group instructions of microprocessor 8085.

(*c*) Explain the following instructions with suitable example :

(*i*) $LDAX_{rp}$

(*ii*) CALL addr(Label).

(*d*) Write an ALP program for microprocessor 8085 to multiply two 8 bit numbers.

(*e*) Write an ALP program for microprocessor 8085 to find square of 8 bit number.

5. Write short notes on any *three* of the following (**5** marks each) : 15

(*a*) Instruction format

(*b*) Implicit addressing mode

(*c*) Pin diagram of 8085

(*d*) Fetch cycle and execute cycle

(*e*) Flags of 8085 microprocessor.

This question paper contains **3** printed pages]

GF—22—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (First Year) (Second Semester) EXAMINATION

APRIL/MAY, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-403

(Database Management System)

(Wednesday, 26-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions carry equal marks.

(*ii*) Figures to the write indicate full marks.

1. Attempt any *five* of the following : 15

(*a*) Explain three level architecture of DBMS in detail.

(*b*) What do you mean by Centralized Systems ?

(*c*) Explain concept of Shared Memory.

(*d*) Explain advantages and disadvantages of DBMS.

(*e*) Explain concept of DML in detail.

(*f*) Discuss the concept of attributes in Entity Relationship Model.

(*g*) What is Database ?

P.T.O.

2. Attempt any *three* of the following : 15

(*a*) Explain difference between primary key and foreign key.

(*b*) Explain client server system in detail.

(*c*) Discuss queries to create the table and insert data into it.

(*d*) Explain concept of entity sets.

(*e*) What do you mean by distributed Database ?

3. Attempt any *three* of the following : 15

(*a*) Explain various data types used in SQL.

(*b*) Explain any *two* single row functions used in SQL.

(*c*) What do you mean by participation constraints ?

(*d*) Explain ER diagram with an example.

(*e*) Explain the concept of Data Server.

4. Attempt any *three* of the following : 15

(*a*) Explain procedure to change table structure in SQL.

(*b*) Explain in detail concept of Attributes.

(*c*) Explain types of relationships in detail.

(*d*) Explain various DBMS users.

(*e*) Discuss the concept of parallel systems.

5. Write short notes of any *three* of the following : 15

(*a*) Entity

(*b*) Centralized Systems

(*c*) Relationship sets

(*d*) Basic structure of SQL Query

(*e*) Date function.

This question paper contains **3** printed pages]

GF—30/GK—30—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (Second Semester) EXAMINATION

APRIL/MAY, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-204-A

(Desktop Publishing)

(Friday, 28-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) Explain starting of PageMaker.

(*b*) Explain Photoshop in brief.

(*c*) Explain concept of color correction.

P.T.O.

(*d*) Explain creating background.

(*e*) Explain different marquee select tools in Photoshop.

(*f*) Explain different orientations of page.

(*g*) Explain setting the margins.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain viewing the page in detail.

(*b*) Explain PageMaker window elements.

(*c*) How to use zoom tool ? Explain in brief.

(*d*) Explain master pages and master page items in PageMaker.

(*e*) Explain various page measurements.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain inserting a page and removing a page in PageMaker.

(*b*) Explain page icons in detail.

(*c*) Explain procedure for color correction in image using Photoshop.

(*d*) Explain any *five* tools in Photoshop.

(*e*) Explain various page size settings.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain texture and frames in Photoshop.

(*b*) Explain control settings d placements in Photoshop.

(*c*) Explain ways to clean image in Photoshop.

(*d*) Explain Tonning and color correction.

(*e*) Write down PageMaker window elements.

5. Write short notes of any *three* of the following (**5** marks each) : 15

(*a*) Reflection

(*b*) Crop tool

(*c*) Lasso select tool

(*d*) Cleaning and repairing of images

(*e*) Freehand.

This question paper contains **2** printed pages]

GF—14—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (Second Semester) EXAMINATION

APRIL/MAY, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper (Part-II)

(Intro. to Programming Language Using C)

(Monday, 24-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) Explain operations on file.

(*b*) Explain types of functions.

(*c*) Explain malloc( ) memory allocation function.

(*d*) Explain command line arguments.

(*e*) Explain difference between structure and union.

(*f*) Explain calloc( ) memory allocation function.

(*g*) Explain storage classes in detail.

P.T.O.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain recursion with suitable example.

(*b*) Explain dynamic memory allocation.

(*c*) Write a program to perform addition of two numbers using function.

(*d*) Explain strcmp( ) string library functions.

(*e*) Write a program to find max of two numbers using function.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) What is pointer ? Explain pointer declaration in detail.

(*b*) Explain types of file in detail.

(*c*) What is structure ? Explain nested structure.

(*d*) Explain the concept of array of structure.

(*e*) Write a program pointer to pointer.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain concept of union with suitable example.

(*b*) Explain pointer to structure in detail.

(*c*) Write a program to find factorial of given number using recursion.

(*d*) Write a program to read the data from a file.

(*e*) Explain dereferencing pointers in detail.

5. Write short notes of any *three* of the following (**5** marks each) : 15

(*a*) strcpy( ) and strcat( )

(*b*) random access file

(*c*) strlen( )

(*d*) Pointer to function

(*e*) Pointer to Pointer

This question paper contains **2** printed pages]

GF—05—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (Second Semester) EXAMINATION

APRIL/MAY, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-201

(Operating System)

(Thursday, 20-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) Explain Single Processor System.

(*b*) Explain System view in detail.

(*c*) Explain CLI mode in detail.

(*d*) Explain context switch in brief.

(*e*) Explain Information maintenance in brief.

(*f*) What is operating system with organization of Operating System ?

(*g*) Explain scheduler in detail.

P.T.O.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain Operating System Structure in detail.

(*b*) Explain process control and file management system calls in operating system.

(*c*) Explain Process control Block in detail.

(*d*) Explain segmentation in detail.

(*e*) Explain user interfaces in operating system.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain concept of scheduling queue in detail.

(*b*) Explain shortest job first algorithm with example.

(*c*) Explain working of operating system resource manager.

(*d*) Explain computer system architecture in detail.

(*e*) Explain priority scheduling algorithm in detail.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain concept of system call in detail.

(*b*) Explain Round Robin scheduling algorithm.

(*c*) What is paging ? Explain hardware support for paging concept.

(*d*) Explain few operating system services.

(*e*) What is fragmentation ? Explain in detail.

5. Write short notes of any *three* of the following (**5** marks each) : 15

(*a*) Extended machine

(*b*) Process states

(*c*) System boot

(*d*) Dispatch and ready queue

(*e*) Communication.