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ND—11—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. CS (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Intro. to Programming Language Using C) (Part-2)

(Saturday, 2-12-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *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 types of functions.

(*b*) Explain operations on file.

(*c*) Explain concept of union.

P.T.O.

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

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

(*f*) Explain dereferencing pointers.

(*g*) Explain strlen() string library functions.

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

(*a*) What is function ? Explain in detail.

(*b*) Explain command line arguments.

(*c*) Explain Dynamic memory allocation.

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

(*e*) Explain storage classes in detail.

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

(*a*) What is pointer ? Explain Pointer declaration.

(*b*) Explain recursion with suitable example.

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

(*d*) Write a program pointer-to-pointer.

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

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

(*a*) Explain Pointer declaration.

(*b*) What is file ? Explain how to create FILE.

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

(*d*) What is function ? Explain in detail.

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

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

(*a*) strcmp() & strcat()

(*b*) pointer-to-pointer

(*c*) Random access file

(*d*) malloc()

(*e*) Types of file.

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

ND—27—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(8085 Microprocessor)

(Thursday, 7-12-2023) **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*) What is Mnemonics in microprocessor ?

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

(*d*) What is instruction cycle in 8085 MP ? Explain it.

P.T.O.

(*e*) Machine cycle.

(*f*) What is instruction set in 8085 microprocessor ?

(*g*) Interrupt signals of 8085 microprocessor.

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

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

(*b*) Explain interrupts and peripheral initiated signals in 8085 MP pin configuration.

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

(*d*) Explain general purpose registers.

(*e*) What is direct addressing mode ? Explain any *two* instructions of direct 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 immediate addressing mode with example.

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

(*i*) DAA

(*ii*) LHLD addr.

(*d*) Explain implicit addressing mode with example.

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

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

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

(*b*) What is Arithmetic group of instructions ? Explain any *three*.

(*c*) Explain any *five* branch control group instructions of microprocessor 8085.

(*d*) What is data transfer group of instructions ? Explain any *three*.

(*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*) Advantages of Assembly Language programming

(*c*) Fetch cycle and Execute cycle

(*d*) Branch control group of instruction

(*e*) Flags of 8085 microprocessor.

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ND—18—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Database Management System)

(Tuesday, 5-12-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— All questions are compulsory.

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

   (*a*) Explain DDL in detail.

   (*b*) Explain inner join with example.

   (*c*) Explain where clause.

   (*d*) Write down advantages of DBMS.

   (*e*) Explain 1NF, 2NF in short.

   (*f*) Explain **5** types of DBMS languages.

   (*g*) Differentiate between primary key and foreign key.

P.T.O.

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

(*a*) Explain structure of DBMS.

(*b*) Explain DCL commands with example.

(*c*) Explain 3-level architecture of DBMS.

(*d*) What is data model ?

(*e*) Explain client-server system.

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

(*a*) What is transaction server ?

(*b*) Explain distributed system with example.

(*c*) What is parallel database architecture ?

(*d*) Explain entity relationship model.

(*e*) Draw entity relationship diagram.

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

(*a*) Define data types in SQL.

(*b*) Explain how to change table structure.

(*c*) Explain types of SQL functions.

(*d*) What are different types of constraints ?

(*e*) Write qurey to perform the following task :

(*i*) Creating a table with 5 columns-student id, name, class, mobile no. and address

(*ii*) Insert 3 rows of data (any).

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

(*a*) Creating view

(*b*) Shared disk

(*c*) Data server

(*d*) DBMS user

(*e*) Hierarchical database architecture.

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

ND—26—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-204A

(Desktop Publishing)

(Thursday, 7-12-2023) **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 creating a new document.

(*b*) Explain PageMaker in brief.

(*c*) Explain concept of freehand.

P.T.O.

(*d*) Explain different orientations of page.

(*e*) What is the different marquee select tools in Photoshop ?

(*f*) Explain Photoshop in brief.

(*g*) Explain toolbox in PageMaker.

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

(*a*) Explain how to set page numbers in PageMaker.

(*b*) Explain PageMaker window elements.

(*c*) Explain types of effects Photoshop.

(*d*) Explain purpose of merging layers with its procedure.

(*e*) Explain purpose of brushes, also state its types and usage procedure.

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

(*a*) Explain all methods of adding and removing pages in PageMaker.

(*b*) Explain color conversions in Photoshop.

(*c*) Explain procedure to tone and make color correction in image using Photoshop.

(*d*) Write down different page measurements in Photoshop.

(*e*) Explain different options in create new document window in PageMaker.

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

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

(*b*) Explain zoom tool in PageMaker.

(*c*) Explain shadow in Photoshop.

(*d*) Write a procedure to add any image in PageMaker and wrapping text.

(*e*) Explain concept of layer in Photoshop.

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

(*a*) Page icons

(*b*) Master page items

(*c*) Reflection

(*d*) Patterns and Dimentions

(*e*) Drawing tools in PageMaker.

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

ND—04—2023

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Operating System)

(Thursday, 30-11-2023) **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 operating system services.

(*b*) Explain FCFS.

(*c*) Explain continuous memory allocation.

P.T.O.

(*d*) Explain concept of multiprocessor.

(*e*) Explain command interpreter in brief.

(*f*) Explain users view of operating system.

(*g*) Explain information maintenance.

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

(*a*) Explain operating system structure.

(*b*) Explain operating system as a resource manager.

(*c*) Explain single processor computer system architecture.

(*d*) Explain system boot in brief.

(*e*) Explain process control system call with example.

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

(*a*) Explain process state.

(*b*) Explain context switching in brief.

(*c*) Explain SJF algorithm.

(*d*) Explain process control block.

(*e*) Explain scheduler in brief.

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

(*a*) Explain concept of scheduling.

(*b*) Explain fragmentation concept.

(*c*) Explain round robin algorithm.

(*d*) Explain scheduling queue in brief.

(*e*) Explain concept of segmentation.

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

(*a*) Paging method

(*b*) Computer system organization

(*c*) System calls

(*d*) Extended machine

(*e*) Device management system calls.