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VD—04—2024

FACULTY OF COMPUTER SCIENCE

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

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-201

(Operating System)

(Wednesday, 27-11-2024)

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.

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

15

(a) Explain user view.

(b) Explain operating system resource manager.

(c) Explain Schedulers.

(d) Define Operating System.

P.T.O.

- (e) Explain Command Interpreter.
- (f) Explain PCB.
- (g) Explain SJF.

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

- (a) Explain computer system architecture.
- (b) Explain Operating System Resource Manager.
- (c) Describe extended machine concept.
- (d) Explain operating system structure.
- (e) What is Operating System ? Explain system view.

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

- (a) Explain types of system calls.
- (b) Explain system boot.
- (c) Explain operating system interface.
- (d) Explain in detail operating system services.
- (e) Explain in detail system calls.

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

- (a) Explain FCFS and Round-Robin scheduling.
- (b) Explain process states.

- (c) Explain in detail process scheduling.
- (d) Explain priority scheduling.
- (e) What is meant by Context Switching ? Give in detail.

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

15

- (a) Explain in detail segmentation.
- (b) Explain memory allocation.
- (c) What is Fragmentation ? Explain its types.
- (d) What is Memory Management ? Explain it in detail.
- (e) Explain in detail paging.

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VD—11—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-202

(Introduction to Programming Language Using C) (Part-II)

(Friday, 29-11-2024)

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.*

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

15

(a) What is a function ?

(b) Explain the dereferencing pointers.

(c) Explain the Unions.

(d) What is File ?

P.T.O.

- (e) Explain the pointer to pointer.
 - (f) Explain the creating structures.
 - (g) Explain the Recursion.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail Standard String library functions.
 - (b) Explain in detail Storage Classes.
 - (c) What is Pointer ? Explain the pointer declaration and initialization.
 - (d) WAP in C to read two string and append it.
 - (e) WAP in C to read +ve integer number. Find and print factorial using recursion.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail User defined functions, Declaration and Definition.
 - (b) What is Pointer ? Explain the Pointer declaration and initialization.
 - (c) Explain in detail Arrays and pointers with example.
 - (d) Explain in detail Dynamic memory allocation.
 - (e) WAP in C to demonstrate on Command Line Arguments.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail array of structures with example.
 - (b) Explain in detail file mode in 'C'.

- (c) Explain in detail Random Access to File.
- (d) WAP in C to create a text file with the name pune.txt.
- (e) WAP in C to copy a file from pune.txt into mumbia.txt.

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

15

- (a) Explain in detail Accessing structure members.
- (b) Explain in detail Pointers and structures with example.
- (c) Explain in detail Nested Structures in 'C'.
- (d) WAP in C to read a student record and display on screen using structure.
- (e) WAP in C to read +ve integer number. Find and print cube using user define function.

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VD—26/VI—26—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-204A

(Desktop Publishing)

(Wednesday, 4-12-2024)

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.

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

15

(a) Explain Photoshop in brief.

(b) Explain setting the page size.

(c) Explain the opening the publication.

(d) Explain image contrast for image in Photoshop.

P.T.O.

- (e) Explain starting PageMaker.
 - (f) Explain the viewing the page in PageMaker.
 - (g) Explain PageMaker in brief.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain tool box in Photoshop.
 - (b) Explain starting a PageMaker.
 - (c) Explain inserting and removing pages in publication.
 - (d) Explain procedure for color correction in image using Photoshop.
 - (e) Explain ways to clean image in Photoshop.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain toolbox in PageMaker.
 - (b) Explain the setting margin in publication.
 - (c) Explain setting the page orientation.
 - (d) Explain texture and frames in Photoshop.
 - (e) Explain toning and color correction.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Write down creating new document in PageMaker.
 - (b) Explain setting page number in publication.

- (c) Explain master page and master page items in PageMaker.
 - (d) Explain control setting placement in Photoshop.
 - (e) Explain type effect in Photoshop.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) Page icon
 - (b) Saving a new document
 - (c) Various page measurements
 - (d) Creating patterns
 - (e) Reflection and Dimension.

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VD—18—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-203

(DBMS)

(Monday, 2-12-2024)

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 necessary.*

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

15

(a) Explain altering views in detail.

(b) What is foreign key ?

(c) What are facilities of DBMS ?

(d) Explain data types in SQL.

P.T.O.

- (e) What is tuple and attribute in relational model ?
- (f) What is shared disk ? Discuss.
- (g) Explain table creation procedure.

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

- (a) Explain any *two* multiple row functions with example.
- (b) Discuss the concept of relationship sets.
- (c) Explain basic structure of DBMS.
- (d) Explain how to create views on views.
- (e) Explain date functions with example.

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

- (a) Explain primary key with example.
- (b) Discuss data models in detail.
- (c) Explain how to update views.
- (d) Explain DISTINCT clause.
- (e) Discuss participation constraints.

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

- (a) Discuss queries to insert data into table and update it.
- (b) Explain WHERE clause.

- (c) Explain ER diagram with an example.
 - (d) Explain concept of mapping cardinalities.
 - (e) Explain procedure to create table structure in SQL.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) Parallel systems
 - (b) Three level architecture of DBMS
 - (c) Distributed database
 - (d) Character functions
 - (e) Client server system.

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VD—27—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-204B

(8085 Microprocessor)

(Wednesday, 4-12-2024)

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) Draw suitable diagram wherever necessary.

(iv) Assume suitable data, if necessary.

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

(a) Explain microprocessor, word length of microprocessor.

(b) Explain opcode and operands.

(c) Explain immediate addressing mode.

(d) Describe working of DAD-instruction.

P.T.O.

- (e) Describe working of power supply and frequency signals.
 - (f) Describe working of HOLD and HLDA-pin.
 - (g) Describe Execute Cycle.
2. Attempt any *three* of the following (Each of 5 marks) : 15
- (a) Draw block diagram of 8085 microprocessor. [Fig. only]
 - (b) Describe working of general purpose registers of 8085 microprocessor.
 - (c) Describe working of IR, Program Counter, Stack Pointer.
 - (d) Describe instruction format of 8085 microprocessor.
3. Attempt any *three* of the following (Each of 5 marks) : 15
- (a) Describe various features of 8085 microprocessor.
 - (b) Draw pin configuration of 8085 microprocessor. (Fig. only)
 - (c) Describe working of the following pins :
 - (i) ALE
 - (ii) $\text{IO}/\overline{\text{M}}$
 - (iii) S_0, S_1
 - (d) Describe working of the following pins :
 - (i) $\text{AD}_7\text{--AD}_0$
 - (ii) $\text{A}_{15}\text{--A}_8$
 - (iii) $\overline{\text{RESETIN}}$
 - (e) Describe data transfer group of instructions.

4. Attempt any *three* of the following (Each of **5** marks) : 15
- (a) What is addressing mode ? Describe any *three* addressing modes of 8085.
 - (b) Write an ALP to find larger number between two numbers.
 - (c) Write an ALP to find sum of two 16-bit numbers.
 - (d) Describe branch control group of instructions of 8085.
 - (e) Write an ALP to subtract two 16-bit numbers.
5. Write short notes on any *three* of the following (Each of **5** marks) : 15
- (a) Interrupt signals used in 8085 microprocessor
 - (b) Flag register of 8085
 - (c) Timing and control unit of 8085 microprocessor
 - (d) Instruction cycle of 8085 microprocessor
 - (e) Arithmetic group of instructions of 8085 microprocessor.