BT MRE-II(R/S)-06-23-2326 Reg. No. | | | | | | | | | A

B.Tech. Degree II Semester Regular/Supplementary Examination in Marine Engineering June 2023

19-208-0205 COMPUTER PROGRAMMING

(*2019 Scheme*)

Time: 3 Hours Maximum Marks: 60

Course Outcome
On successful completion of the course, the students will be able to:

CO1: Write algorithms for problems.
CO2: Acquire knowledge of the syntax and semantics of C programming language for solving problems.
CO3: Code a given logic in C language using arrays.
CO4: Handle data using SQL and understand basics of OOP.
CO5: Write programs involving structures and do file management.
Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 –Analyze, L5 – Evaluate, L6 – Create
PI – Programme Indicators

Answer *ALL* questions (5 × 15 = 75)

			Marks	BL	CO	PI
I.	(a)	Give a brief description about the working of a computer.	10	L1	1	1
	(b)	Elaborate any two uses of a computer on a ship.	5	L2	1	1
		OR				
II.	(a)	Describe the working of SRAM and DRAM. Which is faster?	5	L1	1	2
	(b)	Discuss the need for an operating system in a computer.	5	L2	1	2
	(c)	Briefly describe LAN, MAN and WAN transmission technologies.	5	L1	1	2
III.	(a)	Write an algorithm and draw flowchart for finding greatest among three given numbers.	7	L3	2	3
	(b)	Write a short note on the data types used in C.	8	L2	2	1
		OR				
IV.	(a)	Explain how the IF statement differs from SWITCH statement with an example.	5	L2	2	2
	(b)	Write a C program to display the pyramid pattern using the alphabet. A A B A A B C B A A B C D C B A	10	L3	2	3
V.	(a)	Write a program to swap two numbers by using C functions using pass by value and pass by reference.	6	L3	3	4
	(b)	Write the procedure for swapping two strings using pointers	9	L3	3	3
		OR				
VI.	(a)	Write a C program to add two numbers using command line arguments.	5	L3	3	3
	(b)	Write a menu driven program to perform the following functions: Read a Matrix, Add two matrices and display a matrix.	10	L3	3	4

(P.T.O.)

			Marks	BL	CO	PI
VII.	(a)	What is the need of Constructors and Destructors?	5	L4	4	2
	(b)	List and explain each of the ACID properties that collectively guarantee that database transactions are processed reliably.	10	L2	4	2
		OR				
VIII.	(a)	What are access specifiers? What is their significance in OOPs?	5	L1	4	2
	(b)	Write the SQL query for the following based on the table below:		L3	4	4

Table: Movies

'title' is the name of the movie

'release_year' is the year when the movie was released

'budget' is the production cost of the movie in American dollars

'gross' is how much the movie earned in American dollars.

'imdb_score' shows the ratings produced from votes submitted by IMDb users.

	(i)	Display the movies to be released in 2010.	2
	(ii)	Display all the profit made by each movie in the 'films' table. (Profit = Perform Gross - Budget)	2
	(iii)	Display the top 5 latest movies stored in the table	2
	(iv)	Correct the release_year for 'The Godfather: Part III' to be 1990 instead of 1970	2
(c)		Delete the entry for 'The Godfather: Part III' from the 'movies' table.	2

IX.	(a)	Describe the process of handling errors during file operations.	5	L2	5	2
	(b)	Write a program to accept different states of India using array of *struct*. The *struct* should contain state, population, literacy rate and income. Display the state whose literacy is the highest and income is the highest.	10	L5	5	4
		OR				
X.	(a)	Write a C program to read data from a text file and display the data on the screen. If file does not exist, create a file.	7	L3	5	3
	(b)	Write C program to accept batting information of cricket team using structure. It contains player name and runs scored by player. Calculate total runs scored by cricket team.	8	L3	5	4

Bloom's Taxonomy Levels
L1 = 16.67%, L2 = 25.33%, L3 = 48%, L4 = 3.33%, L5 = 6.67%.

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