(Model Paper) **C –23, EC -306**

State Board of Technical Education and Training, A. P

Diploma in Electronics and Communication Engineering (DECE)

III Semester

Subject Name: Programming in C & MATLAB

Sub Code: EC - 306

Time: 90 minutes **Unit Test I** **Max.Marks:40**

Part-A **16Marks**

Instructions: (1) Answer **all** questions.

(2) First question carries **four** marks, each question of remaining carries **three** marks

1. Fill the following blanks with one word

   a) _____ symbol represents assignment operator (CO1)

   b) ++a is the syntax of post increment (State True/False) (CO1)

   c) Switch case is an example for iterative statement (State True/False) (CO2)

   d) && symbol represents which operator in C _____ (CO1)

2. List six relational operators in C (CO1)
3. Define an Array. (CO2)
4. Distinguish between break and continue statements. (CO2)
5. Define String (CO3)

Part-B **3×8=24**

Instructions: (1) Answer **all** questions.

(2) Each question carries **eight** marks

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. (a) Explain the increment and decrement operators (CO1)

   or

   (b) Explain bitwise logical operators (CO1)

7. (a) Write the syntaxes of the following decision-making statements and explain (CO2)
   iv. If. else statement
   v. Nested if …else statement

   or

   (b) Write the syntaxes of the following loop control statements and explain (CO2)
   iv. for
   v. while

8. (a) Write a C program to sort the numbers in an array in ascending order(CO2)

   or

   (b) Write a C program to perform matrix addition. (CO2)

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III Semester

Subject Name: Programming in C & MATLAB

Sub Code: EC- 306

Time: 90 minutes **Unit Test II** **Max.Marks:40**

Part-A **16Marks**

Instructions: (1) Answer **all** questions.

(2) First question carries **four** marks, each question of remaining carries **three** marks

1. Fill the following blanks with one word

   a) _____key word is used in the declaration of structure (CO4)

   b) Pointer is a variable which stores the address of another variable**(State True/False)** (CO3)

   c) Write any one conditional pre-processor directive (CO4)

   d) In MATLAB declaration of variables is necessary before we initialize them **(State True/False)** (CO5)

2. Define a pointer (CO3)
3. Define a structure in C (CO4)
4. Differentiate structure and union in any three aspects (CO4)
5. Distinguish the major differences between C and MATLAB (CO5)

Part-B **3×8=24**

Instructions: (1) Answer **all** questions.

(2) Each question carries **eight** marks

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. a) Explain pointer arithmetic operations with examples. (CO3)

   or

   (b)Explain passing of parameters to the function (CO3)

7. (a)Explain the method of accessing of members of a structure. (CO4)

   or

   (b)Illustrate structures with a program to read & print a book database consisting of Title of book, author, no. of pages, price as fields (CO4)

8. (a)Explain with an example the matrix operations such as: i) addition; ii) subtraction; iii) multiplication; iv) transpose and v) inverse using MATLAB (CO5)

   or

   (b)Illustrate plot commands such as:

   i) plot (x, y);ii) fplot (); iii) title (); vi) xlabel (); v) ylabel (); vi) subplot() in MATLAB

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MODEL PAPER
BOARD DIPLOMA EXAMINATIONS
C-23, EC-306, PROGRAMMING IN C & MATLAB
III SEMESTER
SEMESTER END EXAMINATION

TIME:3 HOURS **MAX MARKS:80**

Part-A **10×3=30**

Instructions: (1) Answer **all** questions.
(2) Each question carries **three** marks
(3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List any six relational operators used in C. (CO1)
2. Write the syntax for nested assignment statement (CO1)
3. Define an Array. (CO2)
4. Distinguish between break and continue statements. (CO2)
5. Define a String (CO3)
6. Describe the use of return statement in C (CO3)
7. Define a structure in C (CO4)
8. Differentiate structure and union in any three aspects (CO4)
9. State the need for MATLAB in solving engineering problems (CO5)
10. Distinguish the major differences betweenC and MATLAB (CO5)

Part-B **5×8=40**

Instructions: (1) Answer **all** questions.
(2) Each question carries **eight** marks
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (i) Explain the increment and decrement operators (CO1)
    (ii) Explain bitwise logical operators (CO1)
12. Write a C program to sort the numbers in an array in ascending order (CO2)
13. Write a C program to perform matrix addition. (CO2)
14. Explain the String handling functions strcat (), strcmp (), strcpy () and strlen () with examples. (CO3)
15. Write a c program to check whether a given number is palindrome or not (CO3)
16. Explain the method of accessing of members of a structure. (CO4)
17. Explain with an example the matrix operations such as:i) addition; ii) subtraction; iii) multiplication; iv) transpose and v) inverse using MATLAB (CO5)
18. Illustrate plot commands such as: i) plot (x, y); ii) fplot () iii) title (); ivi) xlabel (); v) ylabel (); vi) subplot () in MATLAB (CO5)

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