

Enrollment No.....



Faculty of Engineering / Science

End Sem Examination May-2024

EN3ES28 / BC3ES13 Advanced Programming with C

Programme: B.Tech. / B.Sc.

Branch/Specialisation: All

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Which symbol is used to declare a pointer? 1
 (a) * (b) # (c) & (d) &&
- ii. What is the result of expression ptr++ in C, where ptr is pointer? 1
 (a) Increase the value of ptr by 1
 (b) Decrease the value of ptr by 1
 (c) Move ptr to the next memory location
 (d) It's not a valid operation
- iii. What is a structure in C language? 1
 (a) A structure is a collection of elements that can be of same datatype
 (b) A structure is a collection of elements that can be of different datatype
 (c) Elements of a structure are called members
 (d) All of the these
- iv. The enum keyword is used to assign names to the _____ constants. 1
 (a) Integer (b) String (c) Character (d) None of these
- v. Which of the following header files must necessarily be included to use dynamic memory allocation functions? 1
 (a) stdlib.h (b) stdio.h (c) memory.h (d) malloc.h
- vi. What will be the output of the following C code? 1

```
#include<stdio.h> #define max 100 main() { #ifdef max printf("hello"); }
```


 (a) 100 (b) hello (c) "hello" (d) error
- vii. Which of the following true about FILE *fp? 1
 (a) FILE is a keyword in C for representing files and fp is a variable of FILE type
 (b) FILE is a stream
 (c) FILE is a buffered stream
 (d) FILE is a structure and fp is a pointer to the structure of FILE type

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- viii. fseek() should be preferred over rewind() mainly because- **1**
 (a) rewind() doesn't work for empty files
 (b) rewind() may fail for large files
 (c) In rewind, there is no way to check if the operations completed successfully
 (d) All of these
- ix. Using functions of ____ in Turbo C compiler you can make graphics programs, animations, projects, and games. **1**
 (a) graphics.h (b) stdlib.h
 (c) dos.h (d) conio.h
- x. setfillstyle() functions is used for____. **1**
 (a) It sets the current fill pattern and fill color
 (b) It shuts down the graphics system
 (c) It fills a bounded region
 (d) None of these
- Q.2 i. Define double pointer. Explain with example. **2**
 ii. What is pointer? How it is declared, initialized and access? **3**
 iii. Explain relationship between pointer and array with help of example. **5**
 OR iv. Explain call by value and call by reference with help of example. **5**
- Q.3 i. Define structure with syntax. **2**
 ii. Compare structure and union. **3**
 iii. Write a program to display details of student(Name, rollno, marks) using structure. **5**
 OR iv. Write a program for passing structure to a function. **5**
- Q.4 i. What is meant by preprocessor directive in C? Give examples. **2**
 ii. What is macro and macro expansions in C? Give example. **3**
 iii. Explain dynamic memory allocation. malloc(), calloc(), realloc(), free() with syntax. **5**
 OR iv. What are header files? How it is create? Explain with example. **5**
- Q.5 i. What is file handling in C? **2**
 ii. Explain following file functions: **3**
 fopen(), fscanf() ,fprintf().
 iii. Write a program in C to create and store information in a text file. **5**
 OR iv. Explain following I/O system calls in C: **5**
 Create, Open, Close, Read, Write.

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- Q.6 i. What is graphics programming in C? **2**
 ii. What is the Initgraph () function used for in C? Explain with syntax. **3**
 iii. Write a C program to draw line. **5**
 OR iv. What are the applications of graphics program in C? **5**

Marking Scheme

BC3ES13/EN3ES28 (T) Advanced Programming With C

Q.1	i)	A	1
	ii)	C	1
	iii)	D	1
	iv)	A	1
	v)	A	1
	vi)	D	1
	vii)	A	1
	viii)	C	1
	ix)	A	1
	x)	A	1
Q.2	i.	Define double pointer. Explain with example, A pointer is a variable that stores the address of another variable 1 mark int val = 5; int *ptr = &val; // storing address of val to pointer ptr. int **d_ptr = &ptr; 1 mark	2
	ii.	What is pointer? How it is declared, initialized and access? Pointer Initialization is the process of assigning the address of a variable to a pointer 1 mark declared, initialized and access 2 marks	3
	iii.	Explain relationship between pointer and array with help of example. Explanation 2 marks Example 3 marks	5
OR	iv.	Explain call by value and call by reference with help of Example. call by value 2.5 marks call by reference 2.5 marks	5
Q.3	i.	Define structure. With syntax. Definition 1 mark Syntax 1 mark	2
	ii.	Compare structure and union. Minimum three point of both 1 mark each	3
	iii.	Write a program to display details of student(Name, rollno, marks) using structure Structure Declaration 1 mark Declare Structure variable 1 mark Assign values and display 3 marks	5
OR	iv	Write a program for passing structure to a function.	5

Structure Declaration **1 mark**
Declare Structure variable **1 mark**
Assign values and display **3 marks**

Q.4	i.	What is meant by preprocessor directive in C? Give Examples Explanation 1 mark Example 1 mark	2
	ii.	What is macro and macro expansions in c? Give example Explanation 1 mark Example 2 marks	3
	iii.	Explain dynamic memory allocation. malloc(), calloc(), realloc(), free() with syntax. Explanation 3 marks Syntax 2 marks	5
OR	iv.	What are header files and how it is create? Explain with example Explanation 2 marks Example 3 marks	5
Q.5	i.	What is file handling in C? Explanation 2 marks	2
	ii.	Explain following file functions: fopen(), fscanf() ,fprintf() Explanation each 1 mark	3
	iii.	Write a program in C to create and store information in a text file. Declaration 1 mark Create text file 1 mark store information in a text file 3 marks	5
OR	iv	Explain following I/O system calls in C: Create, Open, Close, Read, Write. Explanation each 1 mark	5
Q.6	i.	What is graphics programming in C? Explanation 2 marks	2
	ii.	What is the Initgraph () function used for in C? Explain with syntax Explanation 2 marks Syntax 1 mark	3
	iii.	Write a C program to draw line. Declaration 1 mark Initialization 1 mark Draw line 3 marks	5
OR	iv.	What are the applications of graphics program in C? Minimum five points 1 mark each	5

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