

Time: Two hours/Three hours/Four hours/Six hours

Full Marks 100
(60 marks for part I)

Use a separate Answer-Script for each part

No. of Question	PART - I	Marks
1.i)	<i>state errors, if any, in the following program segment :</i>	
	<pre> a) main() { char str[5]="hello"; printf("\n str=%s", str); } </pre>	
	<pre> b) main() { int i=1; do {printf ("%d",i); i++; } while (i=10) } </pre>	2x2=4
ii)	<i>Explain the output:</i>	
	<pre> a) main() { char str1[]="programming"; char str2[]="is fun"; strcpy(str1, str2); printf("\n str1=%s", str1); } </pre>	
	<pre> b) main() { int n=5,i; for (i=0;i<=10; i++) printf("\n %d X %d = %d",n, i, (n*i)); } </pre>	3x3=9
	<pre> c) main() { int arr[]={1,2,3,4,5}; int *ptr,i; ptr=arr+4; for(i=4;i>=0;i--) printf("\n%d", *(ptr-i)); } </pre>	
iii)	What is UNARY operator? Give example.	3
iv)	Why should we close a file after it is used? What is the syntax?	4
2.i)	Compare between <i>break</i> and <i>continue</i> statement. Give Example.	
ii)	Give some characteristics of Object Oriented Programming (OOP) language?	
iii)	Write a program to rearrange and display N elements in ascending order using array.	3+3+14 =20
	OR	
2. i)	Explain the term ' <i>Polymorphism</i> ' in OOP.	
ii)	Compare the use of if-else construct with that of ternary operator. Give example.	3+3+14
iii)	Write a program to read month of the year as an integer. Then display the name of the month and number of days of that month. Use Function.	=20
3.i)	Write a program to print volume and surface area of a sphere of radius 'R' using pointer.	
ii)	What is STRUCTURE in C programming language? What is the advantage of it?	
iii)	Write a program to find the minimum of the principal diagonal of a given square matrix of order $n \times n$:	3+2+15 =20
	OR	
i)	Write a program to find length of a given string.	
ii)	Write syntax of function <i>realloc ()</i> along with the necessary header file required. Why it is required?	
iii)	Write a program to solve for x using Newton Raphson Method .	3+2+15 =20
	$x^2 + \sin(x) - 1.8415 = 0$	

.....**B. Civil Engineering 2nd Year...** EXAMINATION, 2019
(1st / 2nd Semester / Repeat / Supplementary / Annual / Bi-Annual)

SUBJECT**Computer Programming -II**
(Name in full)

PAPER**XX**.....

Full Marks 100
(40 marks for part II)

Time: Two hours/Three hours/Four hours/Six hours

Use a separate Answer-Script for each part

No. of Questions	PART II Answer all questions	Marks
1.	<p>a) Find the deflection at point B, C and D. Use finite difference method. Given, $E=2.1 \times 10^5 \text{ N/mm}^2$ and $I = 8603.6 \times 10^4 \text{ mm}^4$.</p> <div style="text-align: center;"> <p>The diagram shows a horizontal beam of total length 18m, supported by a pin at A and a roller at E. A uniformly distributed load of 21 kN/m is applied from A to C. A point load of 85 kN is applied at D. The beam is divided into segments AB, BC, CD, and DE, each 4.5m long. The beam has different flexural rigidities: EI for AB and BC, and 2EI for CD and DE.</p> </div>	21
	<p>b) Starting from the first derivative, find third and fourth derivatives in backward difference scheme.</p>	4
2.	<p>a) Prove that for Simpson 3/8 rule for numerical integration, $I = \frac{3h}{8} [y_0 + 3y_1 + 3y_2 + y_3]$</p>	6
	<p>b) $I = \int_5^{10} (x^3 + 12x^2 + 35x + 3) dx$ evaluate the value of I by one point and two points Gauss Quadrature method. Also compare these results with exact value.</p>	9