Form A : Paper-setting Blank

Ref. No. ...*EX/CE/T/223/2017*

.....*B. Civil Engineering 2nd Year*... EXAMINATION, *2017*
(~~1st~~ / 2nd Semester / ~~Repeat / Supplementary / Annual / Bi-Annual~~)

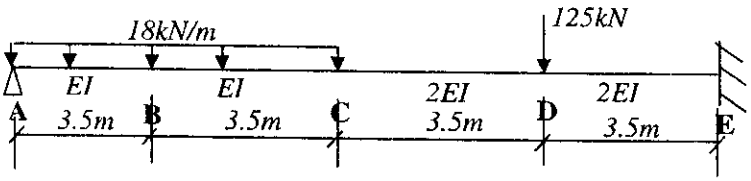
SUBJECT .....*Computer Programming -II*
(Name in full)

PAPER .....*XX*.....

Full Marks 100
(40 marks for part I)

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

Use a separate Answer-Script for each part

No. of Questions	PART I **Answer Q.1 any one from the rest**	Marks
1.	a) Find the deflection at point B, C and D. **Use finite difference method**. Given, E=2.1 ×10^5 N/mm^2 and I = 8603.6×10^4 mm^4.  	21
	b) Starting from the first derivative, find the third derivative in backward difference scheme.	4
2.	a) Prove that for **Simpson 3/8 rule** for numerical integration, $I = \frac{3h}{8}[\, y_0 + 3y_1 + 3y_2 + y_3 \,]$	6
	b) $I = \int_4^8 (8x^3 + \frac{5}{3}x^2 + 5x + 3)dx$ evaluate the value of I by **one point and two points Gauss Quadrature method**. Also compare these results with exact value.	9
3.	Find the Eigen values and Eigen vectors of the given matrix ($[A]$) by **Stoodala method**. $[A] = \begin{bmatrix} 2 & 1 & -4 \\ 1 & 4 & 0 \\ -4 & 0 & 1 \end{bmatrix}$	15

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CIVIL ENGG 2ND YEAR 2ND SEMESTER EXAM 2017
(~~1st~~ / 2nd-Semester ~~/ Repeat / Supplementary / Annual / Bianual~~)
SUBJECT: *Computer Programming-II*
(Name in full)

Full Marks 60

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

Use a separate Answer-Script for each part

No. of Question	PART – II	Mark
	Answer Q 1. and any FOUR from the rest.	

1.i)	*state errors, if any, in the following program segment and write the correct statement*:
	a) char s1[6];
	strcpy(s1, " JADAVPUR");
	b) int a, *b = &a;
	c) for(i=0;i<2;i++)
	scanf("%f%f,&amount[i]);
		3x2=6

ii)	***Explain** the output*:
	a) #include<stdio.h>
	main()
	{int ii;
	for(ii=0;ii<=2;ii++)
	{switch(ii)
	{case 1: printf("%d\n",ii);
	case 2: printf("%d\n",ii);
	default: printf("%d\n",ii);}
	} }
	b) #include<stdio.h>
	main()
	{int ii,x=0;
	for(ii=1;ii<10;ii++)
	{if(ii%2= = 1)
	x+=ii;
	else
	x- -;
	printf("%d\n",x);}}
		3x2=6

2. i)	Write a **for loop** statement that initializes all the principal diagonal elements of a square matrix to *one* and others to *zero*. Assume 5 rows and 5 columns.	
ii)	What do you understand by the term *'Call by reference'*? Give Example.	
iii)	Describe the purpose of using malloc ()? Write syntax of it along with the necessary header file required.	4+3+3+2
iv)	Write a short note on *Unary Operators*.	
3.i)	Write a program to find shear force and bending moment of a simply supported beam of length L subjected to uniformly distributed load (w) upto L/2 from left end. Display the result in tabular form. Use **function.**	
ii)	What is a structure in C programming? Give example.	10+2=12
4.i)	Write a program to add first n terms of the following series. S = 1/1! + 2/2! + 3/3! + 4/4! + ...	
ii)	What is an Object Oriented Programming? Give example.	10+2=12

5.	Write a program that will read the elements of a two dimensional square matrix and will find out the largest element from the leading diagonal of the matrix.	12
6.i)	Write a program to read the age of 10 persons and count the number of persons in the age group 50-60.	
ii)	Write a C program to calculate total surface area and volume of a sphere where radius of the sphere is given. Use **function**.	6+6=12

Marks

=6

3x2=6

4+3+3+2

10+2=12

10+2=12