Form A : Paper-setting Blank

Ref. No. ...*EX/CE/T/225/2018(Old)*

.....*B.E. Civil Engineering 2nd Year*... EXAMINATION, *2018(Old)*
(~~1st~~ / 2nd Semester / ~~Repeat / Supplementary / Annual / Bi-Annual~~)

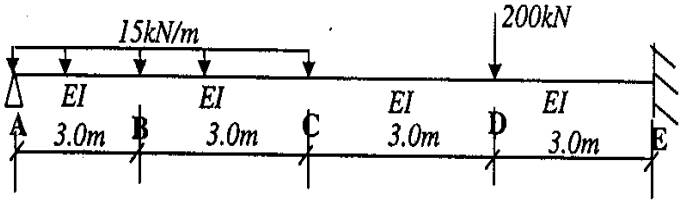
SUBJECT .....*Computer Aided Analysis and Programming*
(Name in full)

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

Full Marks 100
(50 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	Marks
	Answer any two questions	
1.	Find the deflection at point *B*, *C* and *D*. **Use finite difference method.** Given, E=2.1 $\times 10^5\ N/mm^2$ and $I = 8603.6\times 10^4 mm^4$. 	25
2.	a) The first derivative of a function (y) in backward difference scheme is expressed as $\nabla y_i=(y_i- y_{i-1})/h$. Find the **third derivative** of the function.	5
	b) Prove that for **Simpson rule** for numerical integration, $I=\frac{h}{3}[y_0+4y_1+y_2]$	7
	b) $I=\int_5^8 (6x^3+4x^2+8x+6)dx$ evaluate the value of I by **Trapezoidal and Simpson rule.** Also compare these results with exact value. Take h=**0.50**.	13
3.	Find the Eigen values and Eigen vectors of the given matrix ($[A]$). **Use any numerical method.** $[A]=\begin{bmatrix} 2 & 1 & -4 \\ 1 & 4 & 0 \\ -4 & 0 & 1 \end{bmatrix}$	25

Form A: Paper –Setting Blank

Ref No. –Ex/CE/T/225/2018 (Old)

CIVIL ENGG 2ND YEAR 2ND SEMESTER EXAM 2018 (OLD)

(~~1st~~ / 2nd Semester ~~/ Repeat / Supplementary / Annual / Bianual~~)

SUBJECT: *Computer Aided Analysis &Programming*

(Name in full)

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

Full Marks 100

(50 marks for each part)

Use a separate Answer-Script for each part

No. of Question	PART – II	Marks
	Answer Q 1. and any THREE from the rest.	

1.i)	*state errors, if any, in the following program segment* :
	a) scanf("%c %f %d",city, &price, &year);
	b) char s1[6];
	strcpy(s1, " JADAVPUR");
	d) int a, *b = &a;
		2x3=6

ii).	*Give 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 x= -4,y=2;
	while(x<=0)
	{x+ +;
	y- -;
	if(x= = y)
	continue;
	else
	printf("%d %d\n",x,y); }}
		4x2=8

2.i)	Write a program to evaluate the sum of the given series upto n^{th} term. Use function. $S = x - x^3/3! + x^5/5! - x^7/7!+\ldots\ldots$ (x will be given by user).	10+2=12
ii)	Distinguish between *getchar* and *scanf* functions.	
3.	Write a program find $[R] = [A]_{nxn} + [A]_{nxn}^T$ Where $[A]^T$ is the transpose of [A].	12
4.i)	Why *strcmp ()* is used? How it works? Which header file is necessary to use this function?	4
ii)	Write a program to check whether a give number given is prime or NOT.	8
5.i)	What is the advantage of using a FUNCTION in programming?	
ii)	What is a pointer? How is a pointer initialized?	
iii)	Why and when do we use #include directive?	4+4+4 =12
6.i)	Describe the purpose of using malloc ()? Write syntax of it along with the necessary header file required.	4
ii)	Write a program to find maximum of "N" numbers using array.	8