

BACHELOR OF CIVIL ENGINEERING (EVENING) EXAMINATION 2018(OLD)
(Second Year, First Semester)

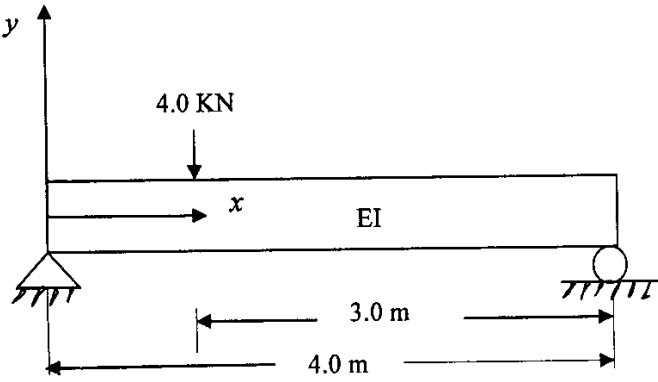
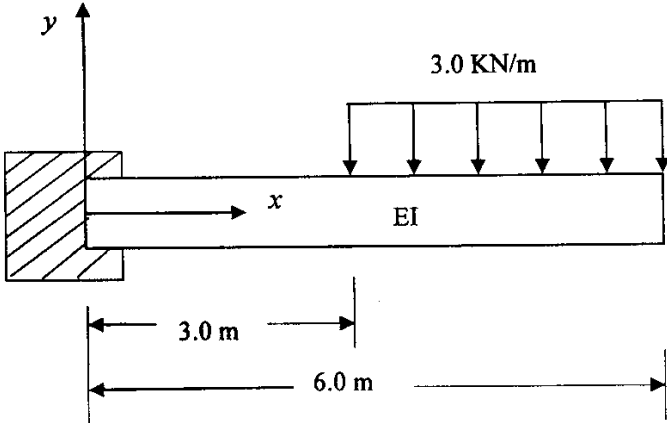
SUBJECT: COMPUTER AIDED ANALYSIS & PROGRAMMING

Time: Three Hours

Full Marks 100
(50 marks for each part)

Use a separate Answer-Script for each part

No. of questions	Part I	Marks
Answer any Five Questions.		
1.	a) Define Eigen value, Eigen vector.	2
	b) Using polynomial method, determine the Eigen values and corresponding Eigen vectors for the matrix $A = \begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$	8
2.	a) What is a boundary-value problem? How is it different from an initial-value problem?.	3
	b) Find the Eigen values and corresponding Eigen vectors using power and inverse power method, using two iterations, for the matrix $B = \begin{bmatrix} 7 & 3 \\ 3 & -1 \end{bmatrix}$	7
3.	a) Derive Composite Simpson's one-third's rule using the first three terms of Newton-Gregory forward formula.	8
	b) Use the Trapezoidal rule with no. of segments(n)= 4, evaluate the integral. $\int_0^4 (x^2 + 6) dx$	2
4.	a) Explain the concept used in Gaussian quadrature.	3
	b) Using three-point Gauss quadrature rule, estimate the integral. $\int_2^6 (3x^2 + 2x - 5) dx$ Also, find the absolute relative true error.	7

No. of questions	Part I	Mar
5.	<p>Compute the deflection at mid-point and quarter points of the beam shown in figure below using finite difference method.</p> 	10
6.	<p>Find the deflection for the cantilever beam at 1.5m, 3.0m, 4.5m and 6.0m from the fixed end using finite difference method.</p> 	10

B. CIVIL ENGG.(EVENING) 2ND YEAR 1ST SEM. EXAM. 2018(old)

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Time: Three hours

Full Marks 100 (50 marks for each part)

Use a separate Answer-Script for each part

No. of question	PART – II	Marks
1	<pre> i)# include <stdio.h> int main () { int k; k=7/9*3-9*3/2 printf(“%d”,k); return 0; } ii) # include <stdio.h> int main () { int i=3; int *j; j=&i; printf(“%u\n”,&i); printf(“%u\n”,j); printf(“%u\n”,&j); printf(“%d\n”,*(&i)); printf(“%d\n”,*j); return 0; } Let address of i – 65524 and j – 65522 iii)# include <stdio.h> int main () { int k,x=5; for (k=3;k>0;k--) x=x+k; printf(“%d”,k); return 0; } </pre>	<p>2</p> <p>2</p> <p>2</p>

No. of Question		Marks
2.	<p>Write short notes on any three of the following.</p> <ul style="list-style-type: none"> a) For loop. b) Use of pointer in C program c) Difference between While loop & Do-While loop d) Recursive function <p style="text-align: center;">Answer any four questions.</p>	<p>3 x4 =12</p> <p>4X8 =32</p>
3	<ul style="list-style-type: none"> a) Write a C program, to add of two Matrices [A] and [B], both of size (2x3) and (3X2) respectively and store the result in a separate matrix [C]. b) Write a C program to print ascending order form given input as N number integer c) Write a C program, to find biggest value from diagonal element of NxN matrixes as input. d) Create a structure to specify data about employee. The data to be stored its name, Age, Basic pay and ID no. Assumed maximum 100 no employee. Write a C program to print the details of an employee, if give an ID no. as input. e) Write a C program to interchange the elements of two diagonal of two square matrix. 	<p>7)</p>