

B. CIVIL ENGG.(EVENING) 2<sup>ND</sup> YEAR 1<sup>ST</sup> SEM. EXAM. 2018

SUBJECT: COMPUTER PROGRAMMING-II

Time: Three hours

Full Marks 100 (50 marks for each part)

Use a separate Answer-Script for each part

No. of Question	PART – I	Marks
1	Write short notes on <b>any two</b> of the following. a) Use of pointer in C program b) Difference between While loop & Do-While loop c) Recursive function  <b>Answer any three questions.</b>	2x4=8
2	a) Write a C program to obtain the factorial of given integer number using recursive function. b) Write a C program, to product of two Matrices [A] and [B], both of size (2x3) and (3X2) respectively and store the result in a separate matrix [C].	6 8
4	a) Write a C program to print ascending order form given input as N number integer b) Write a C program, to find biggest value from diagonal element of NxN matrixes as input.	6 8
5	a) 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. b) Write a C program to interchange the elements of two diagonal of two square matrix.	8 6
6.	a) Write a C program to find out value of $\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} x \sin x \, dx$ using Simpson's rule. Given No. of division (k) as an input. b) Given four-digit integer number, write a C program to print it in reverse and also find sum of the digits.	8 6

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

**SUBJECT : COMPUTER PROGRAMMING - II**

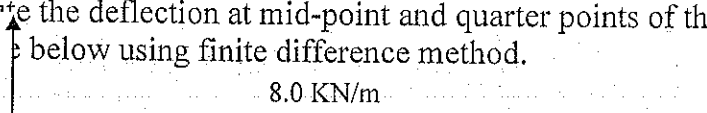
Time: Three Hours

Full Marks 100  
(50 marks for each part)

Use a separate Answer-Script for each part

No. of questions	Part II	Marks
.Answer any Five Questions.		
1.	a) Using three-point Gauss quadrature rule, estimate the integral. $\int_3^7 (5x^2 + 4x + 2) dx$ Also, find the absolute relative true error.	7
	b) Use the Trapezoidal rule with no. of segments (n) = 4, evaluate the integral. $\int_2^6 (x^3 + 2x - 1) dx$	3
2.	a) Derive Composite Simpson's one-third's rule using the first three terms of Newton-Gregory forward formula.	8
	b) What is the basic difference between Simpson's one-third rule and Gauss quadrature rule?	2
3.	Using polynomial method, determine the Eigen values and corresponding Eigen vectors for the matrix $A = \begin{bmatrix} 4 & 6 & 10 \\ 3 & 10 & 13 \\ -2 & -6 & -8 \end{bmatrix}$	10
4.	a) Define Characteristic polynomial.	2
	b) Find the Eigen values and corresponding Eigen vectors using power and inverse power method, using two iterations, for the matrix $B = \begin{bmatrix} 4 & 5 \\ 6 & 5 \end{bmatrix}$	8

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No. of questions	Part 11	Marks
5.	a) Write an algorithm to compute the value of a definite integral using Trapezoidal rule.	4
	b) Derive the finite difference equation for $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ .	4
	c) What is the basic difference between an initial-value problem and a boundary-value problem?	2
6.	Compute the deflection at mid-point and quarter points of the beam shown in  below using finite difference method.	10
7.	Find the deflection for the cantilever beam at 3.00m, 6.00m, 9.00m and 12.00m from the fixed end using finite difference method.	10

