320813(20)

B. E. (Eighth Semester) Examination, April-May 2020

(Old Scheme)

(Civil Engg. Branch)

COMPUTER APPLICATION IN CIVIL ENGG.

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all units part (a) is compulsory. Attempt any two from (b), (c) and (d).

Unit-I

1. (a) Write the C++ program segment to check if the flow is laminar or not, if Reynolds number is given? 2

   (b) Write a C++ program to compute friction factor in case of turbulent flow. 7

(c) Write a C++ program to compute discharge through circular open channel. 7

(d) Write a C++ program to compute friction factor in case of laminar flow. 7

Unit-II

2. (a) Write a C++ program to convert an angle in degree into radians. 2

(b) Write a program to convert whole circle bearing to Quadrantal bearing. 7

(c) Write the program for computation of reduced levels of various points using height of instrument method. 7

(d) Write a program to compute free float of all activities in a given CPM network. 7

Unit-III

3. (a) Write expression for void ratio in C++. 2

(b) Write a C++ program to compute safe bearing capacity if soild cohesion and angle of internal friction are known. 7

(c) Write a C++ program for the determination of horizontal and vertical hydraulic conductivities for flow through anisotropic soils. 7

(d) Write a program to compute the safe bearing of soil if depth of water table is known. 7

Unit-IV

4. (a) Write the expression in C++ for computing maximum deflection in a simply supported beam carrying a uniformly distribution load. 2

(b) Write a program to compute share force at every tenth point in a simply supported beam carrying a point load at the center of the beam. 7

(c) Write an algorithm to compute bending moment and share force at every quarter point in a simply supported beam carrying a Uniformly Distributed Load (UDL). 7

(d) Write a C++ program to determine the maximum share force at a given section of a simply supported beam subjeted to a system of two rolling loads. 7

Unit-V

5. (a) Write the expression for moment of resistance of a
   balance section in C++.   2

   (b) Write an algorithm of design short axially loaded
   column.   7

   (c) Write a program to computer the permissible stress
   in bending compression for a laterally unsupported
   beam of given section.   7

   (d) Write the expression for permissible stress in axial
   tension for steel member in C++.   7