

320846(20)

**B. E. (Eighth Semester) Examination,
Nov.-Dec. 2021**

(New Scheme)

(Civil Engg. Branch)

**COMPUTER APPLICATIONS in CIVIL
ENGINEERING**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory in each unit. Attempt any one part from (b) & (c) of each question.

Unit-I

1. (a) Write the expression for Froude No. in C++. 2

- (b) Write a C++ program for computing friction factor of turbulent flow for smooth & rough pipe. 14
- (c) Write a C++ program to compute algebraic sum of head loss in each loop of a pipe network, if the head loss in each pipe of each loop is known. 14

Unit-II

2. (a) Write a C++ program to convert degrees into radians. 2
- (b) Write a flow chart and program in C++ to convert whole circle bearing to quadrantal bearing. 14
- (c) Write a C++ program to compute the reduce level of points using rise & fall method. 14

Unit-III

3. (a) Write the expression for effective hydraulic conductivity through an anisotropic soil. 2
- (b) Write a C++ program and flow chart to determine the one dimensional preconsolidation settlement under compacted fill. 14
- (c) Write a C++ program to compute the ultimate bearing capacity of soil for circular and square footing. 14

Unit-IV

4. (a) Write the expression of max. deflection in a simply supported beam carrying u.d.l. 2
- (b) Write a C++ program to determine the support reactions in a simply supported beam subjected to any number of point load and u.d.l. 14
- (c) Write a C++ program to compute bending moment and shear force at every quarter point in a simply supported beam carrying a uniformly distributed load. 14

Unit-V

5. (a) Write a C++ program to determine the column is short or long. 2
- (b) Write a C++ program to find the moment of resistance of a rectangular beam section by limit state method. 14
- (c) Write a C++ program to calculate the safe load carrying capacity of a RCC column section (square). 14