Enrolment No……

Bachelor of Engineering
Fifth Semester Main Examination, Dec-2020
Quantity Surveying & Costing [CE-501]
Branch-Civil

Time: 3:00 Hrs **Max Marks 70**

Note : Attempt any five questions. All question carry equal marks.
Student should not write anything on question paper.

Q.1 (a) Explain in detail various methods of preparing detailed estimate.
(b)What are the requirements of rate analysis? Enlist the factors which affect the rate of analysis

Q.2 (a) Write down the various methods of depreciation.
(b) Explain work charge establishment in detail.

Q.3 (a) What factors are to be considered at the time of preparing the road estimate.
(b) Define the following terms :
i. sinking fund
ii. Scrap value

Q.4 (a) Find out the quantity of masonry work in a segmental arch of clear span 3.5m and rise of 1.5m the thickness of the arch ring is 40cm and wall width is 40cm.
(b) Explain various type of estimate.

Q.5 (a) Prepare analysis of rate for one cubic meter of 1:2:4 RCC work in beams. State the reference of rate assumed.
(b) Explain various factors which affect the cost of work.

Q.6 (a) explain the following term:
i. Depreciation
ii. Gross and Net income.
(b) Explain revised and supplementary estimate.

Q.7 (a) What do you understand by CSR? Explain How it is useful for prepare rate analysis.
(b) What do you understand by methods of determining value of property.

Q.8 (a) Explain the term DPR.
(b) Write Short Note :
i. Gross and net income
ii. Rent fixation of buildings

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Bachelor of Engineering
Fifth Semester Main Examination, December 2020
Construction Materials & Techniques [CE-502]
Branch-Civil

Time: 3:00 Hrs **Max Marks 70**

Note : (i) Attempt any five questions out of eight.
(ii) All questions carry equal marks.
(iii) Assume suitable data if necessary & state them clearly.

Q.1 Explain in detail with neat sketch of the following: 1. Well foundation 2. Steel grillage foundation

Q.2 What are the various methods used for dewatering foundation excavations?

Q.3 What do you understand by Dog Legged stair case? Explain with Diagram?

Q.4 Write detail notes on utilization of agricultural and industrial waste in preparation

Q.5 Write down the application of fly ash in preparation of different types of building material.

Q.6 Explain any two methods in detail of quarrying of stone.

OR

Q.7 What short note: 1. Firefighting arrangement in building 2. Air conditioning

Q.8 Discuss the common defect in construction and their effect on strength and performance of wall.

OR

Classification various types of brick enumerating the characteristics of each type

Enrollment No……

Bachelor of Engineering
Fifth Semester Main Examination, Dec-2020
Structure Analysis-II [CE-503]
Branch-Civil

Time: 3:00 Hrs **Max Marks 70**

Note : (i) Attempt any five questions out of eight.
(ii) All questions carry equal marks.
(iii) Assume suitable data if necessary & state them clearly.

Q.1 (a) A cable is used to support five equal and equidistant loads over a span of 40m find the length of the cable required and its sectional area if the safe tensile stress is 150N/mm^2 the central dip of the cable is 30m and loads are 8kN each.

(b) Explain tensile stress & compressive stress with curve diagram.

Q.2 (a) Analysis the continous beam by flexibility matrix method?

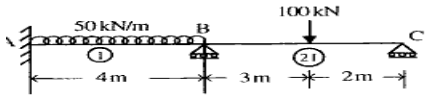

Figure 1

(b) Explain basic unknown in stiffness matrix method.

Q.3 (a) What is the effect of temperature on three hinge arch?
(b) What are the steps involved in portal frame method.

Q.4 (a) What is general cable theorem? Deduce an expression.
(b) What are stiffening girder? Discuss their types.

Q.5 (a) Develop the displacement and force transformation matrix's for a truss member?
(b) Write a short note on structural behavior of tall building subjected to lateral forces?

Q.6 (a) Explain the method of calculation of wind load for a multistorey building as per IS:875?
(b) Explain principle plane & principle stress in details.

Q.7 (a) Explain the portal method and cantilever method for analysis of a building frame subjected to horizontal forces?

(b) Explain the temperature stress in suspension cables?

Q.8 (a) Explain the causes of sway of portal frame?
(b) Discuss the components and function of suspension bridge with diagram?

Enrollment No…….

Bachelor of Engineering
Fifth Semester Main Examination, Dec-2020
Water Resources & Irrigation [CE-504]
Branch-Civil

Time: 3:00 Hrs **Max Marks 70**

Note : (i) Attempt any five questions out of eight.
(ii) All questions carry equal marks.
(iii) Assume suitable data if necessary & state them clearly.

Q.1 (a) Describe method to improve duty.
(b) Explain types of canals.

Q.2 (a) Differentiate base period and crop period.
(b) Differentiate between unlined and lined canals.

Q.3 (a) Describe any one rain water harvesting method.
(b) Establish a relationship between duty and delta.

Q.4 (a) How do you find frequency of irrigation for a crop?
(b) Describe method to improve duty.

Q.5 (a) Classify irrigation systems.
(b) What is mean by infiltration indices?

Q.6 (a) Explain Rain Gauge in detail.
(b) What are the merits and demerits of irrigation engineering?

Q.7 (a) What is Gravity Dam?
(b) Explain the procedures of water distribution.

Q.8 (a) Explain the term "Estimation of consumptive use of water".
(b) Define strategies for reservoir.

Enrollment No…….

Bachelor of Engineering
Fifth Semester Main Examination, Dec-2020
Dynamics of Structures [CE-505]
Branch-Civil

Time: 3:00 Hrs **Max Marks 70**

Note : Attempt any five questions. All questions carry equal marks.
Answer should be precise and to be point only.

Assume suitable data if necessary and state them clearly.

Q.1 (a) Explain Component of basic dynamic system formulation of the equation of motion?
(b) Describe types of prescribe loadings?

Q.2 (a) Explain objective of structural dynamic analysis and characteristics of dynamic problems?
(b) Define the term dynamic load factor?

Q.3 (a) What are the normal mode of vibration and what do you mean by damping?
(b) What is the principal involved in direct integration method?

Q.4 (a) Explains over structural dynamics.
(b) What do you mean by U.D.L. & U.V.L.?

Q.5 Explain:
(i) Critical damping
(ii) Under damped systems

Q.6 A single degree system consist of mass 20kg spring of stiffness 2200N/M and dashpot with damping coefficient 60Nsec/M is subjected to harmonic motion F=200sin5Tdetermine the study state of response and write the solution of equation of motion?

Q.7 Derive the expression for natural frequency of transverse vibration and mode shape uniformly simply supported beam?

Q.8 What is model analysis? Which property of Eigen vector used for model analysis?