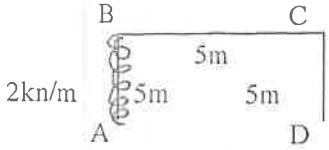
Enrollment No.....

Bachelor of Engineering
Fifth Semester Main Examination, December 2021
Structure Analysis-II [CE-503]
Branch-Civil

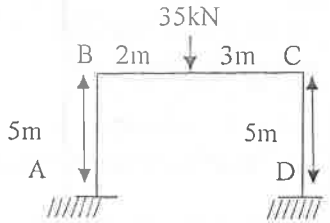
Time: 3:00 Hrs | Max Marks 70

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

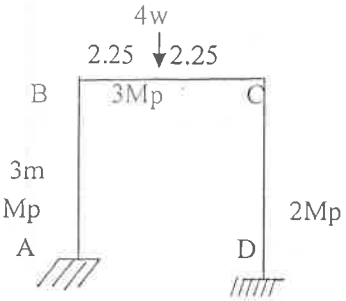
Q.1 (a) Analyse the portal frame by moment distribution method ? All members have same flexural rigidity.



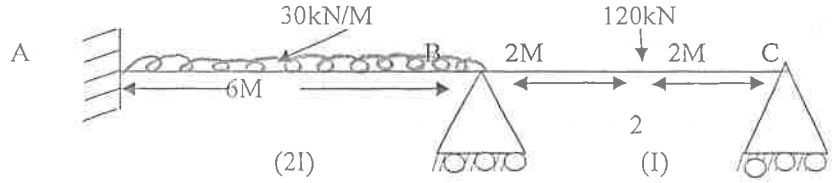
Q.2 Analyse the portal frame by kain's method. Draw Bending moment diagram.



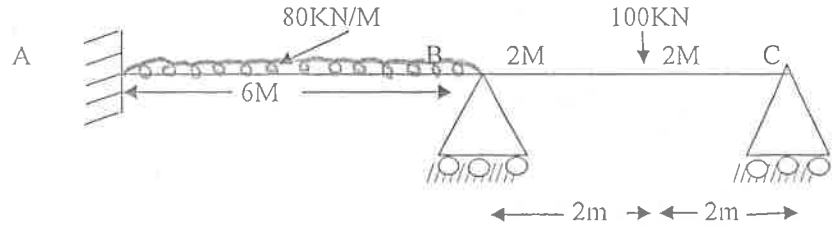
Q.3 For the portal frame shown in the figure calculate the value of load W at coupes .



Q.4 Analyse the continuous beam by using flexibility method of martial if support B sinks by 5mm, EI= 15×10^3.



Q.5 Analyse the continuous beam by using stiffness method of matrix .



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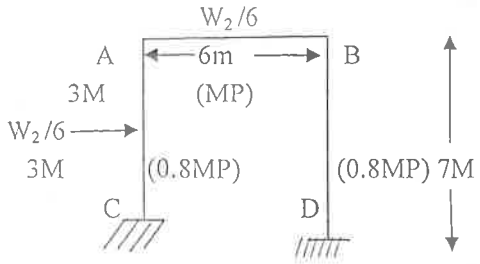
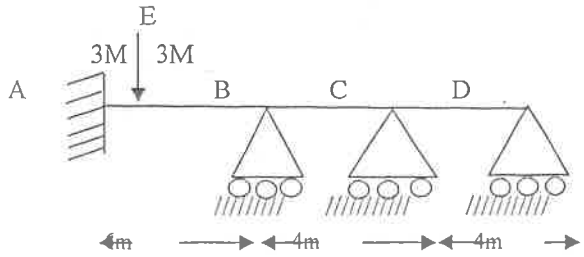
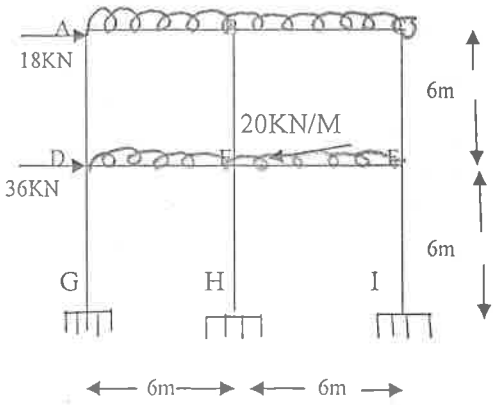
Q.6 Find the collapse load for loaded from. The plastic moment capacity of frame is Mp and of column is 0.80Mp.



Q.7 Determine the equations for the influence line for shear at E of the statically indeterminate beam ? The load moves from A to D draw ICO for shear at E.



Q.8 Analyse the building frame by partial frame method assume points of inflection at 0.1L for gratuity load.



Enrollment No.....

Bachelor of Engineering
Fifth Semester Main Examination, December-2021
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 recording and non-Recording type of rain gauge.
(b) What is rainfall hydrograph? How is it derived from a rainfall mass curve.

Q.2 (a) Explain ground water recharge method.
(b) Define flood frequency and return period. Explain any one method of flood frequency analysis.

Q.3 (a) Explain a multipurpose water resources project.
(b) Describe any one rain water harvesting method.

Q.4 (a) Describe method to improve duty.
(b) Classify irrigation system.

Q.5 (a) Enumerate the different types of canal lining what are the causes of failure of lining.
(b) Design an irrigation canal by Kennedy's theory which is to carry a Discharge of 15 cumecs assume V= 0.0225, m=1.0,B/B=7 side slope = 1/2 H:1v find also the bed slope of canal.

Q.6 (a) What is gravity dam.
(b) Explain the procedure of water distribution.

Q.7 (a) Explain various types of canals.
(b) Differentiate base period and crop period.

Q.8 Write a short note on :-
(a) Hydrological cycle. (b) Kennedys theory
(c) Crop rotation (d) Causes of water logging

Enrollment No.....

Bachelor of Engineering
Fifth Semester Main Examination, December 2021
Dynamics of Structures [CE-505]
Branch-Civil

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

Note : Attempt any five questions. All questions carry equal marks. Assume suitable data if necessary and state them clearly.

Q.1 (a) What is fundamental objective of structural dynamics.
(b) What is generalized SDOF system rigid body assemblage

Q.2 (a) What is response to harmonic loading ?
(b) Explain :- i) critical damping ii) underdamped systems.

Q.3 **Explain :-**
a) General nature of impulsive. b) Sine wave impulse.
c) Rectangular impulse d) Triangular inpulse

Q.4 (a) What is response to general dynamic loading with example ?
(b) What is Duhamel integral. For an undammed system with example.

Q.5 (a) Explain Rayleigh's method.
(b) What is practical vibration analysis ?

Q.6 Write short notes of the following.
i) Particular solution ii) general solution
(iii) Response ratio (iv) damp system

Q.7 What is the direct integration method ? What is the principal involved?

Q.8 What is model analysis ? which property of eigen vector used for model analysis ?

Enrolment No.....

Bachelor of Engineering
Fifth Semester Main Examination, December 2021
Quantity Surveying & Costing [CE-501T]
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) What do you mean by the term "estimate" Also explain the types of estimate and their uses ?

(b) Prepare a preliminary estimate of a building with total plinth one a of 2400sq.m with data following data.

i) Plinth area rate rs2500per sq.m
ii) Extra for special architectural treatment .2% of building cost
iii) Water supply and sanitary installations -5% of building cost
iv) Extra cost for internal installations -15% of building cost
v) Extra for services -6% of building cost
vi) Contingences -3%
vii) Supervision changes -6%

Q.2 (a)What do you understand by CSR ? how it is useful prepare rate analysis ? Explain?

(b) Prepare Analysis of rate for one cubic meter of 1:2:4 RCC work in beam. state the reference of rates assumed.

Q.3 (a) What do you understand by DPR ? Also write detailed specifications for cement concrete ratio 1:1.5:3 ?

Q.4 (a) Describe various factor which affect the cost of work. .

Q.5 Explain methods of determining value of property ? define profit based method in detail .

Q.6 (a) Define –

i) Mortgage
ii) Scrap value
iii) Sinking fund
iv) lease hold property

Q.7 What are the various factor affecting "Rate analysis" ?

Q.8 (a) Write short on-

i) Obsolesce

ii) Cubic content rate method of estimate

iii) Contingency

iv) work change establishment

Enrollment No.....

Bachelor of Engineering
Fifth Semester Main Examination, December-2021
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 briefly the following plastic- polyvinyl chloride, silicones Expoxy resins.

Q.2 Describe about any Building material made from industrial waste also explain about its environment impact.

Q.3 What are the causes of foundation gsilutr? Give the remedial measures.

Q.4 Explain in detail with neat sketch of the following.
(i) Well foundation
(ii) Steel grillage foundation

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

Q.6 Explain in detail various new advance flooring materials with their uses.

Q.7 What is distemper? How is it prepared? Discuss various types of distempers .

Q.8 Explain the following.
(i) Plastering and pointing

(ii) Repairs techniques for masonry

(iii) Grades of Asphalt

(iv) Dewatering of foundation