

V.S.B ENGINEERING COLLEGE, KARUR
DEPARTMENT OF CIVIL ENGINEERING

Year/Semester: IV Year/ VII Semester B.E., Civil Engineering

Subject Code/Name: CE6701 - Structural Dynamics and Earthquake Engineering

ASSINGMENT QUESTIONS

1. Explain the dynamic response of structures using numerical methods.
2. Illustrate in detail about the Time history response by mode superposition in relation to structural dynamics during earthquakes.
3. Derive the equation of motion for free and forced vibration of a continuous system.
4. Give some practical applications for vibration analysis.
5. Differentiate damped and undamped system.
6. Explain in detail about harmonic vibration of SDOF systems.
7. Explain MDOF system in detail.
8. Comment your thoughts on mode superposition technique.
9. Explain briefly about magnitude and intensity scales to represent earthquake phenomenon.
10. Describe about the earthquake damages: a case study of Gujarat earthquake.
11. What are the factors that influence strong ground motion?
12. Explain volcanic earthquake.
13. List some past disastrous earthquake.
14. Discuss the dynamic soil properties needed in the analysis and design of a structure subjected to seismic loads.
15. List the requirements and analysis for soil susceptible to liquefaction.
16. Explain design spectrum in detail with a neat curve.
17. Explain the effect of surface topography.
18. Briefly explain plate tectonics and lithospheric plates
19. Briefly explain the linear and nonlinear dynamic responses of structures.
20. Give the recommendation for detailing the masonry and RC structures subjected to an earthquake loading as per IS 4326: 1993.
21. Describe the role of a seismologist and an earthquake engineer.
22. Enumerate the design details that can prevent damage to low rise structures – non engineered construction.
23. What will happen if the rigidity modulus affects the masonry structure? Justify.
24. Define the response behavior and explain the ductility demand in multistoried buildings with neat sketch.
25. What are the dynamic properties of soil?
26. Explain about linear and non linear dynamic response of structures.
27. Describe the two approaches followed for the prediction of earthquakes.name the major plates of the earth.
28. On what is the assignment of an earthquake magnitude based? is magnitude the same as intensity? Explain
29. Enumerate TSUNAMI.
30. Explain Uttarkashi earthquake of 1991.
31. What is the difference between Inter plate earthquakes and Intra plate earthquakes?

32. Explain the ductile detailing considerations in flexural members as per IS 13920-1993.
33. Why ductility consideration is very important in earthquake resistant design of RC building?
34. Define design spectra. Write the concepts of PGA and ZPA.
35. Briefly explain smooth spectrum and seismic demand diagrams.
36. Explain with practical examples for soft storey failure and floating columns.
37. Write the design procedure for seismic analysis of RC building.
38. What are the methods used to analyse earthquake resistant structures? Explain the Procedure of each method as per IS-1893:2002.
39. Give the main criteria for earthquake resistant measures.
40. In what manner is the behavior of soft storey construction likely to be different from a regular construction in the event of an earthquake?
41. Explain response behavior and ductility demand in multistoried building with neat Sketch.

CE6702- PRESTRESSED CONCRETE STRUCTURES

ASSIGNMENT QUESTIONS

1. Explain in detail about the methods, basic concepts, advantages, materials required for prestressing.
2. Explain the advantages of prestressed concrete and shrinkage and creep in the members and also loss in the members.
3. Explain the assumptions made in prestressed concrete sections and also the major steps followed in the strain compatibility method.
4. Explain the various types of flexural failures encountered in pre-stressed concrete members.
5. Explain the short time and long time deflections of cracked members.
6. Explain with sketched the IS 1343 code method for computing the moment of resistance of rectangular sections.
7. Briefly explain the types of prestressed concrete pipes? Draw neat sketches with parts of pipes?
8. Briefly explain the failure due to web shear cracks and failure due to flexure shear cracks.
9. Briefly explain the necessity of using composite section in PSC structures. Also discuss about the shear in composite beams. What are the provisions usually counteract the effects?
10. Write step by step procedure of composite construction.
11. Explain the advantages of using precast prestressed elements along the in-situ concrete.
12. Discuss the advantages and disadvantages of partial prestressing.
13. (i) Discuss the load deflection behavior of under prestressed, partially prestressed and over prestressed members in detail.(ii) Explain concept of limit states, partial safety factor.
14. What is meant by partial prestressing? Discuss the advantages and disadvantages when partial prestressing is done. b) Explain about the types of flexure failure occurs in prestressed concrete section
15. Explain the step by step design procedure of circular tanks.
16. Explain the short time and long time deflections of cracked members.

17. Explain with sketched the IS 1343 code method for computing the moment of resistance of rectangular sections.
18. Briefly explain the types of prestressed concrete pipes? Draw neat sketches with parts of pipes?
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CE6704 – ESTIMATION AND QUANTITY SURVEYING

ASSIGNMENT QUESTIONS

1. Explain the types of estimates and differentiate detailed estimate from revised estimate.
2. Enumerate different methods for estimating building works along with a suitable example.
3. List and explain any four approximate methods of estimating for buildings.
4. Draw the different types of sanitary fittings?
5. Details of a R.C.C retaining wall 25m long. Prepare a detail estimate for the work.

6. Distinguish clearly between
7. Rough cost estimate and detailed estimate
8. Revised estimate and supplementary estimate
9. Dismantling and demolition
10. Administrative approval and technical sanction
11. Sundries and supervision charges
12. Explain the contents of a typical contract documents.
13. Briefly explain the following items.
 - (i) Tender
 - (ii) Contract document
 - (iii) Termination of contract
 - (iv) Over head cost in analysis of rates.
14. Explain various types of contract.
15. Explain in detail about the four methods of calculation of depreciation.
16. Explain different methods of valuation.
17. Discuss purpose of valuation in detail.
18. Prepare a report on estimate for construction of a Culvert and Road construction
19. Write a report to accompanying an estimate for a village water supply scheme.
20. Prepare the report on the estimate for the construction of road.

CE6007- HOUSING PLANNING AND MANAGEMENT

ASSIGNMENT QUESTIONS

1. Mention the special terms used in housing and explain briefly.
2. Explain the regulation for special building and give some examples.
3. What are the types of building with examples?
4. Mention the application of National Housing Policy.
5. What is meant by green building? Explain its features.
6. Explain the current scenario about the housing shortage in India.
7. Describe about the Tamilnadu Housing Board with its features.
8. Explain clearly with examples of national urban and habitat policy 2007.
9. What are the basic expectations for human being for quality life in housing?
10. Elaborate the government policy available for housing.
11. Discuss about the basic planning concept for housing programmes.
12. What are the basic considerations to choose the site for housing?
13. Explain the structural building with examples.

14. Case Study – Operations Strategy Impact Reference and Deployment Guidance.
15. Differentiate the public and private partnership with suitable applications.
16. Explain in details for DCR& building regulations of CMDA.
17. How to classify people requiring houses by HUDCO?
18. How to get home loans from HDFC?19. Expand.
 - a. HUDCO
 - b. CIDCO
 - c. HDFC
 - d. LIC
 - e. DCR
 - f. CMDA
 - g. CMA
20. Explain with neat sketches for plot plan.
21. What are the factors considerations for housing unit & Explain?
22. Briefly explain the Rental housing and Co-operative housing.
23. Compare merits and demerits of Public and Private sectors in Planning, Design and construction of housing projects.
24. Explain in details of GIS and MIS in Slum housing project.
25. Case study for urban design development: Building AUT is a three-stage development of the Auckland University of Technology's CBD Campus. Jasmx, in partnership with AUT, have designed the project to accommodate over 8,000 students and staff in three main buildings - the Studio Building, the Business Building, and the Arts Building.
26. Evolve a methodology for the design of a Housing Layout.
27. Draw a conceptual design of housing units for the following Income group and indicate dimensions.
 - i) Economically weaker section
 - ii) Low Income group
28. Draw a conceptual design of housing units for the following Income group and indicate dimensions.
 - i) Economically weaker section
 - ii) Low Income group
29. Explain the formulation of housing projects for Site analysis.
30. Illustrate the following construction techniques with neat sketches
 - i) Under Reamed piles ii) Brick-Cavity Walls
31. Explain the following construction techniques with neat sketches
 - i) Rat Trap-Bend ii) Precast channel unit
32. Describe the properties of following modern materials and compare their costs and

strengths with conventional materials

i) Flyash ii) Fibre reinforced concrete

33. Briefly explain the following with reference to Housing Finance.

i) Housing Finance system in India ii) Pricing of Housing Units

34. Briefly explain the following with reference to Housing Finance

i) Formal and Informal Housing Finance Market

ii) Subsidy and Cross-subsidy.

35. What are the procedures to get loan from bank for housing? Explain it.

36. Explain in details of Rents and Recovery patterns in Housing finance.

37. What are the schemes are provided for economically weaker section people?

38. Explain details about the Indira Awas Yojana Schemes and its features.

39. Write the common steps involved in the pricing of housing units.

40. Mention any five costly building in India and explain its modern materials.

41. What are the criteria for Designing and Evaluating Housing Subsidies?

42. What are the roles of banks in housing finance?

CE6023 – INDUSTRIAL WASTE MANAGEMENT

ASSIGNMENT QUESTIONS

1. What do you mean by waste water sludge? And discuss its types.
2. Write the principles and importance of aerobic and anaerobic digestions.
3. Write an essay on various steps involved in the treatment of waste water sludge.
4. Write an essay on the impact of water pollution on aquatic animals.
5. Describe various steps involved in water purification.
6. Write an essay on various layers of atmosphere and their significance.
7. Elaborate on the term air pollution with some incidents/ accidents happening in day-to-day activities.
8. Give an account of the diseases caused by environmental health hazards and their etiology.
9. Explain various steps involved in general environmental health risk assessment.
10. Enumerate the Thermal Methods for the destruction of hazardous wastes
11. Discuss the importance of recycle.
12. Explain about house hold hazardous waste management.
13. Describe the public health importance of solid and liquid waste management.
14. Discuss about human waste is a danger to health.
15. Explain the various steps involved in management of waste generated from the atomic power plant.

CE 6703- WATER RESOURCES AND IRRIGATION ENGINEERING

ASSIGNMENT QUESTION

1. Briefly discuss flood routing. What are the uses of flood routing?
2. Differentiate followings:
Channel routing & Reservoir routing
Prism storage & wedge storage
3. Describe flood frequency analysis.
4. Explain classification of Precipitation.
5. List out the different types of Rain Gauges.
6. Explain factors affecting to the following terms:
 - 1). Evaporation losses
 - 2). Transpiration losses
 - 3). Infiltration
7. Explain methods of computing Infiltration Capacity and Infiltration Capacity Curve.
8. Explain Types of Infiltration Indices
9. Sketch a typical flood hydrograph for a catchment and Explain different components of the hydrograph
10. What is unit hydrograph? Write application, assumptions and limitations of the unit hydrograph.
11. Define & Explain following terms:-
S-hydrograph, Confined aquifer, unconfined aquifer, Specific yield, Specific retention
12. What is Darcy's Law? What are its limitations? How will you measure the coefficient of permeability of soil?
13. Drive an expression for discharge from a well in confined aquifer. The well fully penetrates it.
14. Explain Sedimentation and Causes of sedimentation in reservoir and its Control.
15. Define trap efficiency and Procedure for determine useful life of a reservoir.
16. Briefly explain the steps involved in water resources planning.
17. Discuss the points about water allocation priorities in National Water Policy.
18. Briefly discuss about economics of water resource planning
19. Briefly discuss about consumptive use of water and the factors affecting consumptive use of water. How will you measure it?
20. Briefly explain the methods for determination of consumptive use?

21. Briefly discuss about the contents of Master Plan?
22. Briefly discuss about the concept of basin as a unit for development?
23. What are the different characteristics of water? Briefly discuss about it?
24. What are the different equations for determination of consumptive use? Briefly explain it?
25. Briefly explain about irrigation efficiencies?
26. What are the consumptive uses of water?
27. Briefly explain about planning and development of irrigation project.
28. Soil and sub-soil condition, Temperature, Stage of growth, Rainfall.
29. Briefly explain about sprinkler irrigation methods.
30. Discuss the role of farmers in water management.
31. What is the need for water user's association?
32. Briefly explain about percolation pond?
33. Briefly discuss about water resources in India and Tamilnadu.
34. Discuss about single and multipurpose reservoir with its advantages and disadvantages.
35. Discuss the salient feature of National Water Policy.
36. Briefly discuss about consumptive use of water and the factors affecting consumptive use of water. How will you measure it?
37. List out the various type of irrigation efficiencies and discuss any four?
38. Define irrigation efficiency, draw irrigation system and define all types of efficiencies using that diagram?
39. Describe in brief different types of river training works?
40. State the factors to be considered for the choice of a suitable type of cross-drainage work?
41. Explain briefly the 'Sprinkler' and 'drip' methods of irrigation systems.