

Register Number :

Name of the Candidate :

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B.E. DEGREE EXAMINATION, 2019

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-701 / PCLEC-401. GROUND WATER ENGINEERING

May]

[Time : 3 Hours

Maximum : 75 Marks

Answer ONE FULL question from each unit

ALL questions carry EQUAL marks.

UNIT - I

- 1 Describe the various rock formations which form a good aquifer.
2. Describe the scope and place of ground-water in hydrologic cycle.

UNIT - II

- 3 Describe the general flow equation and assumption made for unsteady radial flow through a confined aquifer.
4. Explain ground-water and well hydraulics.

UNIT - III

- 5 Write a detail note on the following related to well completion :
(a) Well casings. (b) Perforation screens.
6. Explain the methods for constructing hollow wells and drilling deep wells.

UNIT - IV

7. Elaborate the methods of sub-surface investigation of ground-water.
8. Describe the surface and sub-surface investigation of ground-water.

UNIT - V

9. (a) Give a detailed account on occurrence of saline-water intrusion.
(b) Indicate the practical methods to control of saline-water intrusion with neat sketch.
 10. Explain artificial recharge of ground-water and sea-water intrusion.
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Register Number:

0549

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B.E. DEGREE EXAMINATION, 2019

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-702: IRRIGATION AND WATER POWER ENGINEERING

April / May]

[Time : 3 Hours

Maximum : 75 Marks

Answer any ONE FULL question from each unit (5 × 15 = 75)

UNIT - I

1. What are the different types of sprinkler method of distribution of water? Describe briefly with a neat sketch.
2. What is duty? What are the points do you consider while determining the duty of water?

UNIT - II

3. Name the components parts of the diversion headwork and state their function.
4. Enumerate the causes of failure of a barrage on permeable foundations.

UNIT - III

5. Classify the types of dams. Distinguish clearly between rigid and non rigid dams.
6. Discuss with illustration the physical feature that governs the selection of type of dam.

UNIT - IV

7. What are the different types of canal section? Explain with neat sketches.
8. Enumerate the classification of cross drainage works.

UNIT - V

9. What are canal regulation works? Discuss briefly the necessity, design and details of any such regulation works.
10. Discuss in brief, history and development of water power in India.

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0550

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B.E. DEGREE EXAMINATION, 2019

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-703/PCLEC-603: ENVIRONMENTAL ENGINEERING - II

April /May]

[Time : 3 Hours

Maximum : 75 Marks

Answer any ONE FULL question from each unit (5 × 15 = 75)

UNIT - I

1. a) Explain the various Physio-chemical characteristic of sewage and state their environmental significance. (10)
- b) Discuss the Environmental legislation requirements while planning sewage system. (5)
2. a) BOD of a sewage incubated for 2 days at 30°C was found to be 160 mg/lit. What would be its 5 day 20°C BOD? Assume K (base 10) at 20°C as 0.12 per day. (10)
- b) Explain the estimation of relative stability of sewage (5)

UNIT - II

3. Describe with neat sketches, various types of joints used in sewer lines. (15)
4. Describe the various plumbing systems, their formation, advantages and disadvantages. (15)

UNIT - III

5. Explain briefly different characteristics and composition of sewage. (15)
6. Explain the self purification process of rivers and the various zones of oxygen sag curve and methods of disposed. (15)

UNIT - IV

7. Design a screen and grit chamber unit for a proposed STP of 60 MLd capacity. (15)
8. With help of neat 8 sketch discuss the Component, Functioning, advantages and disadvantages of septic tank. (15)

UNIT - V

9. Explain the components and the operational principles of activated sludge process. (15)
10. a) Briefly outline the characteristics of sludge. (5)
- b) Explain the mechanism of biogas recovery from sludge. (10)

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0551

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(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-704/PCLEC-602: REMOTE SENSING AND GIS

April /May]

[Time : 3 Hours

Maximum : 75 Marks

Answer any ONE FULL question from each unit (5 × 15 = 75)

UNIT - I

1. Briefly discuss about the wave length regions importance in remote sensing. (15)
2. Write the brief notes on:
 - (a) Atmospheric window (3)
 - (b) Wave theory and particle theory (4)
 - (c) Spectral reflective characteristics of water, vegetation and soil. (8)

UNIT - II

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3. Discuss in detail about various types of sensors. (15)
 4. Write brief notes on payload descriptions of meteorological satellites. (15)

UNIT - III

5. Write short notes on:
 - (a) Multispectral image classification (5)
 - (b) Image enhancements (5)
 - (c) Pre processing and their types. (5)
6. Discuss in detail about Visual Interpretation Key. (15)

UNIT - IV

7. a) Write brief notes on Data base management system and write their functions in detail. (10)
- b) Explain about the scale of measurements. (5)
8. Define GIS and explain their components in detail. (15)

UNIT - V

9. a) Discuss in detail about the various data input method in GIS. (8)
- b) Discuss the difference between raster and vector models. (7)
10. Briefly discuss about the GIS applications in land information system. (15)

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0559

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B.E. DEGREE EXAMINATION, 2019

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CSEE-705 / PCSEE-703. DYNAMIC OF STRUCTURE

April/May]

[Time: 3 Hours

Maximum: 75 Marks

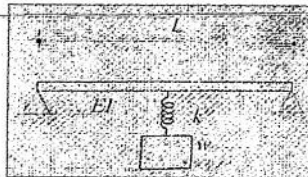
Answer any ONE question from each unit (5×15=75)

UNIT - I

1. Compare between Static and Dynamic Analysis.
2. Write short notes on Hamiltons Principle and Lagranges equation.

UNIT - II

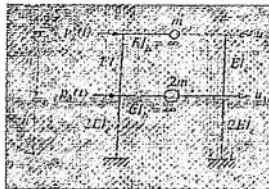
3. Determine the natural frequency of a weight w suspended from a spring at the midpoint of a simply supported beam as shown in fig. The length of the beam is L , and its flexural rigidity is EI . The spring stiffness is k . Assume the beam to be Maseless.



4. Explain in detail the response to harmonic loading in single degree of freedom system.

UNIT - III

5. Formulate the equations of motion for the two storey shear frame as shown in fig.



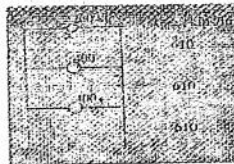
6. Derive the equation of motion for Free and Forced Vibrations of damped system.

UNIT - IV

7. Determine the two frequencies of a uniform cantilever beam by Rayleigh and Ritz Method. Assume, $\psi_1(x) = \frac{1 - \cos \pi x}{L}$ $\psi_2(x) = \frac{1 - \cos 3\pi x}{L}$
8. Write short notes on Matrix method and Mysklestad method.

UNIT - V

9. The properties of a three storey shear building are shown in Fig. These include the floor weights, storey stiffness, natural frequencies and modes. Derive a Rayleigh damping matrix such that the damping ratio is 5% for the first and second modes. Compute the damping ratio for the third mode.



(OR)

10. Write briefly about the model Equations for damped systems.

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0552

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B.E. DEGREE EXAMINATION, 2019

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEE-705/PCLEC-701: URBAN AND RURAL PLANNING

(New Regulations)

(Elective - I)

(Common with Part-Time)

April /May]

[Time : 3 Hours

Maximum : 75 Marks

Answer any ONE FULL question from each unit (5 × 15 = 75)

UNIT - I

1. Describe the surveys which are carried out to collect data.
2. Explain in brief the requirements and classifications of residential buildings.

UNIT - II

3. Explain the features of Satellite towns.
4. Discuss in details the important points to be remembered in the planning of modern town.

UNIT - III

5. Write the detailed note on the modern practice and necessity of regional planning.
6. Discuss in brief current land acquisition acts are practicing in India.

UNIT - IV

7. Explain the rural and urban differences with illustrations.
8. Discuss briefly the integral rural development programmes in India.

UNIT - V

9. Explain the various innovative materials and design philosophy of low cost housing in rural areas.
10. Write down the detailed note on concept of grouping of houses.

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