

Register Number:

0437

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2018

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-701/PCLEC-401. GROUND WATER ENGINEERING

(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. Elaborate in detail about occurrence of groundwater. (15)
2. Describe the various rock formations which form a good aquifer. (15)

UNIT - II

3. a) State Darcy's law. Discuss the experimental verification of Darcy's law. (10)
- b) Write a note on Intrinsic Permeability. (5)
4. Describe the general flow equation and assumption made for unsteady radial flow through a confined aquifer. (15)

UNIT - III

5. Elucidate the methods for drilling deep wells with neat sketches. (15)
6. Write a detail note on the following related to well completion:
 - (a) Well Casings (7)
 - (b) Perforation screens. (8)

UNIT - IV

7. a) Briefly discuss the geophysical exploration method for surface investigation of ground. (7)
- b) How seismic refraction method is used for surface investigation of ground water? Explain. (8)
8. Elaborate the methods of subsurface investigation of ground water. (15)

UNIT - V

9. Illustrate the various recharge methods of ground water basin. (15)
10. a) Give a detail account on occurrence of saline water intrusion. (7)
- b) Indicate the practical methods to control of saline water intrusion with neat sketch. (8)

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B.E. DEGREE EXAMINATION, 2018

(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)

All Questions carry Equal Marks

UNIT - I

1. Explain how canals are classified. Discuss the various measures needed to improve the canal irrigation systems. (15)
2. Describe the basic necessity of irrigation. (15)

UNIT - II

3. Explain the criteria adopted in designing various components of a weir built in permeable foundation using Khosla's Theory. Also write the limitations of Khosla's Theory. (15)
4. Sketch a diversion headwork and write a brief about each of its components. (15)

UNIT - III

5. Discuss the factors to be considered in the selection of an earth dam site? (15)
6. Describe the various types galleries and its functions. (15)

UNIT - IV

7. a) What are the causes of water logging? Explain. (8)
- b) Design a canal by Lacey's Theory for 40 cumecs capacity. The side slope may be assumed |H:|V the average size of bed material may be taken as 0.8mm. (7)
8. With a layout, water, distribution pattern, merits and demerits. Describe the furrow irrigation method of irrigation. (15)

UNIT - V

9. Discuss briefly explain the design of canal regulator. (15)
10. Describe briefly about the high, medium and low head hydel power plant. (15)

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B.E. DEGREE EXAMINATION, 2018

(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. Describe in brief various types of water carriage system, stating advantages and disadvantages of each.
2. A population of 30,000 is residing in a town having an area of 60 hectares. If the average coefficient of runoff for this area is 0.60 and the time of concentration of the design rain is 30 minutes. Calculate the discharge for which the sewers of a proposed combined system will be designed for the town in question. Make suitable assumptions where needed.

UNIT - II

3. Describe with neat sketches, various types of joints used in sewer lines.
4. Explain with the help of diagrams, various systems of plumbing used for house drainage.

UNIT - III

5. Explain briefly different characteristics and composition of sewage.
6. a) Define the term BOD. Differentiate between first stage BOD and second-stage BOD.
b) The BOD sewage sample of 5 days 20°C was found to be 100 mg/l. Calculate 2 day BOD at 30° for the same sample. Assume $K_{20} = 0.1/\text{day}$.

UNIT - IV

7. With help of neat sketch discuss the component, functioning, advantages and disadvantages of septic tank.
8. Design a primary setting tank of rectangular shape for a town having a population of 50,000 with a water supply of 180 liters per capita per day.

UNIT - V

9. Explain the components and the operational principles of activated sludge process.
10. Explain briefly about the sludge treatment process with flow chart.

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B.E. DEGREE EXAMINATION, 2018

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(*New Regulations*)

(*Elective-I*)

(*Common with Part-Time*)

May]

[Time : 3 Hours

Maximum : 75 Marks

Answer ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. Discuss the industrial contribution to modern urban planning. (15)
2. (a) Elaborate the objectives and principles of zoning. (10)
- (b) Write the importance of slum clearance in urban renewal. (5)

UNIT - II

3. Briefly explain the essential strategy for new urban town development with example. (15)
4. Illustrate the essential features in the development of satellite towns. (15)

UNIT - III

5. Briefly discuss preparation of regional and national development plan. (15)
6. Explain the significances of Land Acquisition Act in India. (15)

UNIT - IV

7. (a) Write short notes on rural and urban differences. (10)
- (b) Briefly explain the levels of urbanization in India. (5)
8. Discuss the concept of integrated rural development programme in our country. (15)

UNIT - V

9. Describe the important features of rural housing schemes in India. (15)
10. Elaborate the various innovative materials and design principles for low cost housing in rural areas. (15)

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B.E. DEGREE EXAMINATION, 2018

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(SEVENTH SEMESTER)

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

(Common with Part-Time)

May]

[Time : 3 Hours

Maximum : 75 Marks

Answer ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

- 1 With a neat sketch, explain the basic components of an ideal remote sensing system. (15)
2. Discuss on the spectral reflectance characteristics of water and vegetation in different spectral bands. (15)

UNIT - II

3. (a) Illustrate the principles of a Sun-synchronous orbit. (10)
- (b) Distinguish between passive and active sensors. (5)
4. Briefly explain the classification of earth resources and meteorological satellites. (15)

UNIT - III

5. (a) Write the advantages and limitations of visual image interpretation. (5)
- (b) Explain in detail about visual interpretation keys. (10)
6. Elucidate the typical entire process of digital image processing. (15)

UNIT - IV

7. (a) Briefly discuss the hardware and software components of GIS. (10)
- (b) Write a short note on limitations of GIS. (5)
8. Elaborate the integration of Spatial and Non-Spatial data in GIS. (15)

UNIT - V

9. With a neat sketch, describe raster and vector data representation. (15)
10. Discuss in detail about digitization and scanning process in GIS. (15)

Register Number:

0449

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2018

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CSEE-706 / PCSEE-103. ADVANCES IN CONCRETE TECHNOLOGY

April/May]

Maximum: 75 Marks

[Time: 3 Hours

*Answer any ONE question from each unit
All questions carry equal marks*

UNIT - I

1. a) Explain the factors influencing the strength and density of light weight concrete. (7.5)
b) State the properties of light weight concrete. (7.5)
(OR)
2. Write short notes on (a) Ready mixed concrete (b) Self compacting concrete. (15)

UNIT - II

3. Bring out the properties of fresh and hardened fibre reinforced concrete. (15)
(OR)
4. Explain the Indian standard recommended method of concrete mix design for M30. (15)

UNIT - III

5. Describe the construction procedure of ferrocement concrete for
a) LOPG cylinder pressure test. b) Water pipe pressure test. (7.5)
(7.5)
(OR)
6. Explain the design of ferrocement product and applications. (15)

UNIT - IV

7. State the preparation and application of following
a) Grouting b) Guniting c) Slipform (15)
(OR)
8. Discuss about specialized concreting techniques. (15)

UNIT - V

9. Explain the principles of penetration resistance techniques. (15)
(OR)
10. a) Explain the repair procedure of reinforced concrete structures. (7.5)
b) List the various non-destructive tests on concrete. (7.5)

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0443

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B.E. DEGREE EXAMINATION, 2018

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

**CLEE-706/PCLEE-702. WATERSHED CONSERVATION
AND MANAGEMENT**

April /May]

[Time : 3 Hours

Maximum : 75 Marks

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

UNIT - I

1. Explain the classification and characteristics of watershed. (15)
2. Explain the erosion problems in India. (15)

UNIT - II

3. Discuss the soil erosion and types of soil erosion. (15)
4. Discuss the soil loss estimation models. (15)

UNIT - III

5. Define water conservation and needs for water conservation and water conservation measures. (15)
6. Explain the water harvesting from run-off. (15)

UNIT - IV

7. Explain the various factors affecting the watershed management. (15)
8. Discuss the watershed management practices. (15)

UNIT - V

9. What are wastelands and how they are classified? Elaborate the measures to develop the wastelands. (15)
10. Explain joint forest management. (15)

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