

B.E. DEGREE EXAMINATION, 2015

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-701 / PCLEC-401. GROUND-WATER ENGINEERING

(Common with Part-Time)

November]

[Time : 3 Hours

Maximum : 75 Marks

(Maximum 60 Marks for those who joined before 2011-12)

Answer any ONE FULL question from each unit.

UNIT - I

1. (a) Discuss briefly about occurrence of ground-water. (8)
 (b) Explain hydraulic cycle with a neat sketch. (7)

(OR)

2. (a) Describe the properties affecting ground-water. (8)
 (b) Briefly explain the types of aquifers. (7)

UNIT - II

3. (a) Explain Darcy's law with a neat sketch. (6)
 (b) Draw a sketch showing well operating in an unconfined aquifer and define the following terms :

(i) Cone of depression. (ii) Draw down. (iii) Recuperation (3 + 3 + 3)

(OR)

4. (a) Write a brief note on co-efficient of permeability and specific capacity. (6)
 (b) Describe non-equilibrium equation for pumping test by Theis method. (9)

UNIT - III

5. (a) Explain briefly about construction of wells. (7)
 (b) Write short notes on construction of hollow wells and deep wells. (8)

(OR)

6. (a) Discuss briefly on 'peforation screens' and 'ground packing.' (7)
 (b) Write a brief note on collector wells and infiltration galleries. (8)

UNIT - IV

7. (a) Briefly explain surface investigation of ground-water. (5)
 (b) Describe electrical resistivity method of surface investigation. (10)

(OR)

8. (a) Write a brief note on sub-surface investigation of ground-water. (5)
 (b) Explain in detail 'seismic refraction method.' (10)

UNIT - V

9. (a) Describe artificial recharge of ground-water. (8)
 (b) Explain 'sea-water intrusion' and its effects. (7)

(OR)

10. (a) Write short notes on fresh and saline-water. (8)
 (b) Illustrate Ghyben-Heraberg relation between fresh and saline-water. (7)

Name of the Candidate:

3246

B.E. DEGREE EXAMINATION, 2015

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-702. IRRIGATION AND WATER POWER ENGINEERING-

November]

[Time : 3 Hours

Maximum : 75 Marks

(Max: 60 marks for those who joined before 2011-12)

Answer any ONE FULL question from each UNIT

(5 × 15= 75)

UNIT-I

1. Explain the necessity for irrigation and its types.
2. What are the different classes in which canal for have been classified? List them.

UNIT-II

3. What are the different types of failures that may occur in the weir constructed on previous foundation?
4. Explain the criteria adopted in designing various components of a weir built on permeable foundation using Khosla's theory. Also write the limitation of Khosla's theory.

UNIT-III

5. Draw a neat sketch and explain the different parts of an earth dam.
6. What are the causes of failure of gravity dam and how to prevent them?

UNIT-IV

7. Briefly in discuss about the alkalinity of soil and also explain the effects of water logging.
8. Discuss factors that are to be considered in the hydraulic design of cross-drainage works.

UNIT-V

9. What are canal regulation works? Explain any one in detail.
 10. Explain the classifications of hydroelectric installation.
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B.E. DEGREE EXAMINATION, 2015

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(Common with Part-Time)

November]

[Time : 3 Hours

Maximum : 75 Marks

(Maximum 60 Marks for those who joined before 2011-12)

Answer any ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. A 36 cm diameter sewer with an invert slope of 1 in 360 is flowing $\frac{2^{\text{rd}}}{3}$ of the full depth. Calculate the rate of flow in sewers. (15)

(OR)

2. Explain the various classification of sewerage system. (15)

UNIT - II

3. Explain : (8 + 7)
(a) One pipe systems. (b) Two pipe systems.

(OR)

4. Explain the joints in sewers and laying of sewers. (15)

UNIT - III

- 5 (a) Explain the BOD test and its limitations. (8)
(b) Write the objectives of sewage disposal. (7)

(OR)

6. Explain the various methods of sewage disposal. (15)

UNIT - IV

7. Draw the neat sketch and explain the working principle of trickling filters. (15)
(OR)

8. Draw the neat sketch and explain the working principle of grit chamber. (15)

UNIT - V

9. Write the method of sludge disposal. (15)

(OR)

10. Explain : (8 + 7)
(a) Methods of aeration. (b) Oxidation pond.

B.E. DEGREE EXAMINATION, 2015

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(Common with Part-Time)

November]

[Time : 3 Hours

Maximum : 75 Marks

(Maximum 60 Marks for those who joined before 2011-12)

Answer any ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. (a) Define atmospheric windows. (3)
 (b) Explain in detail about the EMR radiation energy and draw a neat sketch of EMR and indicate their wave length also. (12)

(OR)

2. (a) Explain different types of scattering. (10)
 (b) Define remote sensing and discuss its various components. (5)

UNIT - II

3. (a) Discuss the different types of air borne platforms and space borne platforms used for data acquisition in remote sensing. (8)
 (b) Explain the different types of resolutions. (7)

(OR)

4. (a) Differentiate between active and passive remote sensing. (5)
 (b) Describe in details of microwave remote sensing, types and its specific applications. (10)

UNIT - III

5. (a) Briefly explain about the image identification and interpretation keys used for photographs and satellite images. (10)
 (b) What is meant by multispectral image? Write its various applications. (5)

(OR)

6. (a) What are the different methods of image enhancement? Explain in detail. (8)
 (b) Write merits and demerits of supervised and unsupervised classification. (7)

UNIT - IV

7. (a) Define coordinates. Explain different types of coordinate system. (10)
 (b) What are the characteristics of maps and uses of map? (5)

(OR)

8. (a) Define DBMS and explain any two types of DBMS. (10)
 (b) Define GIS and mention any four GIS software. (5)

UNIT - V

9. (a) Define data model. Explain types of data model in GIS with suitable examples. (10)
 (b) Describe modelling in GIS with suitable examples. (5)

(OR)

10. (a) How will you do highway alignment using GIS? Explain in detail. (10)
 (b) Define data compression. Explain with suitable examples. (5)

B.E. DEGREE EXAMINATION, 2015

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(*Common with Part-Time*)

November]

[Time : 3 Hours

Maximum : 75 Marks

(*Maximum 60 Marks for those who joined before 2011-12*)

Answer any ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. Describe in detail the objectives and principles of zoning.

(OR)

2. Design briefly the urban renewal conservation.

UNIT - II

3. Explain in detail the urban development.

(OR)

4. Write down the step-by-step procedure involved in development of modern town.

UNIT - III

5. List out the levels of planning review in preparation of regional planning development.

(OR)

6. Discuss in detail the building bye-laws.

UNIT - IV

7. Explain in detail the principles of rural planning.

(OR)

8. Justify the integral rural development programme.

UNIT - V

9. Enumerate the design of environmental sanitation.

(OR)

10. Justify the usage of low cost materials in urban and rural planning.

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(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(*Common with Part-Time*)

November]

[Time : 3 Hours

Maximum : 75 Marks

(*Maximum 60 Marks for those who joined before 2011-12*)

Answer any ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. Describe in detail the concept of watershed.

(OR)

2. List out the erosion problems in India and explain in detail.

UNIT - II

3. Briefly explain the soil conservation practices.

(OR)

4. Discuss in detail the soil loss estimation models.

UNIT - III

5. Justify the need for water harvesting.

(OR)

6. Enumerate the flood-water management.

UNIT - IV

7. Summarize the watershed programmes. Mention the factors affecting them.

(OR)

8. Explain in detail the resources for watershed in management.

UNIT - V

9. Discuss in detail the joint forest management.

(OR)

10. Discuss the need for grazing practices and procedure to develop the wasteland to usable land.