

Register Number :

Name of the Candidate :

0376

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.

Each FULL question carries 12 marks.

UNIT - I

1. Explain in detail the hydrologic cycle with neat sketch. (12)

(OR)

2. Explain how rock properties affect (12)

Turn Over

UNIT - II

3. Explain how pumping test is done in Cooper Jacob method. (12)

(OR)

4. Explain the boundary conditions associated with the ground water flow. (12)

UNIT - III

5. Explain the method of constructing hollow wells. (12)

(OR)

6. (a) Explain the functions of perforation screens and gravel packing. (6)

- (b) Explain the use of rings in vertical and radial drilling. (6)

UNIT - IV

7. Explain geophysical method of ground water exploration. (12)

(OR)

8. Explain the test drilling method of subsurface investigation. (12)

UNIT - V

9. Explain with neat sketch ditch and flooding type and basin type recharge of ground water. (12)

(OR)

10. What is meant by dispersion in sea water intrusion? Explain methods to be followed to control sea water intrusion. (12)

Register Number :

Name of the Candidate :

0 3 7 7

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

**CLEC-702. IRRIGATION AND WATER
POWER ENGINEERING - II (d)**

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.

ALL question carry EQUAL marks.

UNIT - I

1. (a) The base period of paddy is 120 days, if the duty for this crop is 900 hectares per cumec. Find the value of delta. (4)
- (b) Distinguish between flow irrigation and lift irrigation. Explain the types of flow irrigation. (8)

(OR)

Turn Over

2. Enumerate the various types of canal drops which have been used since olden days. Explain in detail the design principles governing any one of the modern types.

UNIT - II

3. Differentiate between the following:

- (a) A barrage and a dam.
- (b) Surplus weir and a storage Weir.
- (c) Scouring sluices and head sluices.

(OR)

4. Write short notes on Khosla's method of independent variables for determination of pressures and pressure correction to avoid simple profile to complex profiles.

UNIT - III

5. List the different types of dams? Discuss the various problems in dam construction.

(OR)

6. Write short notes on:

- (a) System tanks and isolated tanks.
- (b) Tank surplus weir and tank sluice.

UNIT - IV

7. Discuss the design criteria for head regulator and cross regulator.

(OR)

8. Discuss the various types of cross drainage works used in canal systems. Illustrate by drawing, a neat sketch of each type of structure.

UNIT - V

9. Write short notes on:

- (a) Hydropower potential of India.
- (b) Hydraulic turbines and their types.

(OR)

Time Over

10. Define the following terms:

(a) Water power potential.

(b) Utilization factor.

(c) Firm power.

(d) Power factor.

Register Number :

Name of the Candidate :

0 3 7 8

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

CLEC-703 / PCLEC-603.

ENVIRONMENTAL ENGINEERING - II

May]

[Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.

ALL questions carry EQUAL marks.

UNIT - I

1. Briefly explain various patterns of sewage collecting system. (12)

(OR)

Turn Over

2. A sewer line is to be laid to serve a community of 150 persons / ha in a mohalla of 30 ha. The average water supply is 2251/c/d. The available ground slope is 1 in 600. Using Manning's formula, with $n = 0.015$, select a suitable diameter of sewer to carry a peak discharge, flowing half-full in the section. Check the velocity for self cleaning section. (12)

UNIT - II

3. Explain the maintenance and cleaning of sewers. (12)

(OR)

4. Explain one pipe and two pipe system with neat sketch. (12)

UNIT - III

5. Explain the natural methods of sewage disposal in detail. (12)

(OR)

6. Explain the characteristics of sewage in detail. (12)

UNIT - IV

7. Explain with a neat sketch the working of imhoff tank in sewage treatment. (12)

(OR)

8. What is the purpose of screening of sewage? Explain the various types of screens in detail. (12)

UNIT - V

9. Explain the principle and design of waste stabilization lagoons. (12)

(OR)

10. Design a conventional activated sludge plant to treat settled domestic sewage with diffused air aeration system with the following data:

Population : 1,50,000

Per capita / sewage flow : 150 lpcd

Settled sewage BOD₅ : 200 mg/l

Average flow : 22.5 mLd

Effluent BOD₅ required : 10 mg/l (12)

Register Number:

0379

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(For the candidates of 2007-2008 batch and later)

May]

[Time: 3 Hours

Maximum: 60 Marks

Answer ONE full question from each UNIT

(5×12=60)

All questions carry equal marks

UNIT - I

1. a) Explain Mie Scattering. (4)
b) Explain the process of transmission and reception of recorded data. (8)

(OR)

2. a) List few advantages and limitations of Remote Sensing. (4)
b) Discuss the Particle Model of Electromagnetic Radiation by arriving at Stefan-Boltzmann law. (8)

UNIT - II

3. Explain what do you mean by Orbit of a Satellite. Also discuss briefly Geosynchronous and Sun-synchronous orbits. (12)

(OR)

4. What do you mean by Resolution of a sensor? Explain briefly (a) Radiometric Resolution (b) Temporal Resolution. (12)

UNIT - III

5. a) What do you understand by Visual Image Interpretation? Explain in brief. (6)
b) What is image classification? Explain the differences between one-pass clustering and ISODATA clustering. (6)

(OR)

6. Discuss the principles of Image Enhancement Techniques. (12)

UNIT - IV

7. a) Explain (i) Cadastral Map (ii) Thematic Map. (4)
b) What do you understand by Special thematic and Temporal dimension of geographic data? Classify Spatial Entity. (8)

(OR)

8. a) Explain the concept of object-oriented data model applied in GIS. (6)
b) Write short notes on Tuples and Attribute. (6)

UNIT - V

9. a) Explain Relational and Physical data models. (3)
b) Describe in detail RS and GIS applications in Highway Alignment studies. (9)

(OR)

10. a) What are the errors introduced in data digitizing? Explain with sketches. (6)
b) What do you understand by Geocoding? What are its advantages and limitations. (6)

&&&&&&&

Register Number :

Name of the Candidate :

0 3 8 0

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

**CLEC-705. URBAN AND RURAL
PLANNING**

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.

ALL question carry EQUAL marks.

UNIT - I

1. Describe briefly the development of urban planning. (12)

(OR)

2. Enumerate the principles of zoning. (12)

Turn Over

2

UNIT - II

3. List out the basic philosophies involved in the development of new town in an urban area.

(12)

(OR)

4. Explain briefly the needs required to plan a satellite town.

(12)

UNIT - III

5. (a) Differentiate between regional and national planning development.

(6)

- (b) Explain the importance of building bye laws.

(6)

(OR)

6. Write a Short note on:

- (i) Land Acquisition Act.

(6)

- (ii) Zoning town.

(6)

3

UNIT - IV

7. Examine the principles of rural planning. (12)

(OR)

8. Describe the integral rural development programme. (12)

UNIT - V

9. Explain the principles involved in environmental sanitation. (12)

(OR)

10. Describe the usage of low cost materials. (12)

Register Number:

0382

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2013

(CIVIL ENGINEERING)

(SEVENTH SEMESTER)

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

(For the candidates of 2007-2008 and after)

May]

[Time: 3 Hours

Maximum: 60 Marks

*Answer ONE full question from each UNIT
All questions carry equal marks*

(5×12=60)

UNIT – I

1. a) Describe the history of erosion in India. (6)
b) Explain any two method of prevention of soil erosion. (6)

(OR)

2. Explain any four methods of water conservation. (12)

UNIT – II

3. Explain in detail about various soil conservation practices. (12)

(OR)

4. Describe the soil loss estimation models in detail. (12)

UNIT – III

5. a) What are the necessity for water conservation? (6)
b) What are the advantages of water harvesting? (6)

(OR)

6. Explain any four methods of open space water harvesting. (12)

UNIT – IV

7. Discuss in detail the various factors affecting watershed management. (12)

(OR)

8. Explain the various factors favourable for implementation of watershed programmes. (12)

UNIT – V

9. Discuss the salient features of various watershed management practicing methods. (12)

(OR)

10. Explain the various difficulties involved in waste land development program. (12)

&&&&&&&