Register Number :

Name of the Candidate :

9 0 3 3

B.E. DEGREE EXAMINATION, 2012

(COMMON TO ALL BRANCHES)

(EIGHTH SEMESTER)

CLEC-804. ETHICS IN ENGINEERING

(New Regulations)

(For the students joined during 2007-08 and after)

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.
ALL questions carry equal marks.

UNIT – I

1. Explain how Gilligan view the three levels of moral development initiated by Kohlberg. (12)

Turn Over

2. (a) Briefly discuss types of inquires. (6)

   (b) What is moral autonomy? What are skills to be possessed to become morally, autonomous. (6)

UNIT – II

3. Explain why engineer are regarded as responsible experimenters. (12)

4. How are public risk perceived? Explain with Bhopal gas tragedy. (12)

UNIT – III

5. Explain the respect of authority in detail. (12)

6. (a) Define collegiality and discuss the elements of collegiality. (6)

   (b) List the advantages and limitations of collective bargaining. (6)

UNIT – IV

7. What is the importance of computer ethics? Discuss the functioning of anonymity and privacy as

   (i) Helpful.

   (ii) Undesirable.

   in computer aided activities with suitable example. (12)

8. Engineers in weapon development. Discuss. (12)

UNIT – V

9. Engineers as expert witnesses and advisors – Explain. (12)

10. Engineers as managers in promoting an ethical climate. Discuss. (12)

Register Number :

Name of the Candidate :

9 0 3 0

B.E. DEGREE EXAMINATION, 2012

(CIVIL ENGINEERING)

(EIGHTH SEMESTER)

CLEC-801. PRESTRESSED CONCRETE

(New Regulations)

(For students joined during 2007-08 and after)

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.
Use of IS 1343-1980 code is permitted.
ALL questions carry equal marks.

UNIT – I

1. Explain why high tension steel and high strength concrete are used for PSC.

Turn Over

2. Explain briefly various losses in pre-stressing.

UNIT – II

3. A composite section is made by casting a 400 × 60 mm in-situ top flange on a 120 mm wide and 250 mm deep pre-cast, pre-tensioned unit which has an effective pre-stress of 15 N/ mm^2 at bottom and 0 at top fibre. Calculate the uniformily distributed lived load for the composite section on a simply supported span of 5 m for 0 tensile stress at bottom of pre-cast unit for the conditions :

   (i) Weight of slab and shuttering is carried by the pre-tensioned unit during casting

   and (ii) The slab is independently supported while being cast.

4. Explain the design of 'End Block' of a pre-stressed concrete member by any one method. (12)

UNIT – III

5. The cross-section of a pre-stressed concrete beam is rectangular with a width of 350 mm and an overall depth of 700 mm. The pre-stressing force of 180 kN actas at an eccentricity of 190 mm. If the bending and twisting moments at the section are 80 and 20 kNm respectively, calculate the maximum principal tensile stress at the section.

6. Compute the resultant stresses developed in the pre-cast pre-tensioned beam and cast in-situ slab for the un-propped case if the modulus of elasticity of concrete in slab and beam are different.

   Assume Ec (pre-stressed beam) = 35 kN/mm^2.

UNIT – IV

7. What are the types of pre-stressed sleepers? Explain them briefly.

8. Design a precast, pre-tensioned column to carry an axial load of 100 kN and a bending moment of 12 kNm. Its actual length is 3 m with bottom end rigidly fixed and the top imperfectly fixed. Take *fck* = 40 kN/mm^2 and pre-stressing wires of 7 mm diameter with f_p = 1500 N/mm^2 and losses 20%.

UNIT – V

9. What is meant by Partial Prestressing? Discuss advantages and disadvantages when partial prestressing is done.

10. What are the assumptions made in calculating deflection of PSC beams?

Register Number: **9026**

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2012

(CIVIL ENGINEERING)

(EIGHTH SEMESTER)

CLEC-804/PCLEC-602. IRRIGATION STRUCTURE AND WATER POWER ENGINEERING

(Old Regulation)

May] [Time: 3 Hours

Maximum: 60 Marks

(For the students joined during 2006-2007 and before)
Answer any ONE Question from each UNIT ***(5×12=60)***
All questions carry equal marks

UNIT-I

1. Explain the various problems associated with the construction of dams.
2. Describer the various factors to be considered in selection of a suitable site for construction of a dam.

UNIT-II

3. Explain the various forces to be considered in the design of gravity dams
4. Describe the various modes of failure of gravity dam.

UNIT-III

5. Enumerate the different type of spillways and how are they selected in for individual conditions.
6. Discuss briefly the design principal that are involved in the design of an ogee spillway.

UNIT-IV

7. Explain the various methods of construction of earthen dams.
8. Describe the various methods of seepage control methods in earthen dam.

UNIT-V

9. Enumerate and explain the classification of hydro plants on the basis of hydraulic characteristics.
10. Write notes on (a) Foreway (b) Penstocks (3) Surge Chamber.

Register Number :

Name of the Candidate :

9 0 3 2

B.E. DEGREE EXAMINATION, 2012

(CIVIL ENGINEERING)

(EIGHT SEMESTER)

CLEC-803. INTERIOR DECORATION AND PLANNING

(New Regulations)

(For the students joined during 2007-08 and after)

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.
ALL questions carry equal marks.

UNIT – I

1. Explain anthropometric data relating to human body and the standard sizes of furniture and fixtures. (12)

Turn Over

2. What is meant by universal design? Explain the principles of universal design. (12)

UNIT – II

3. Explain the anthropometric importance of furniture. (12)

4. Explain the theory of anthropometric and Ergonomics. (12)

UNIT – III

5. Explain the design guidelines for a residential kitchen with a neat sketch. (12)

6. Explain with a neat sketch the design guidelines for a private bathroom. (12)

UNIT – IV

7. Explain how stairs, hand rails and newel posts are classified. (12)

8. Explain the method of construction of partition stating its advantages and applications. (12)

UNIT – V

9. Explain the historical background of landscaping. (12)

10. Explain the types of landscaping. (12)

Register Number:

9023

Name of the Candidate:

B.E. DEGREE EXAMINATION, 2012

(CIVIL ENGINEERING)

(EIGHTH SEMESTER)

CLEC-802/PCLEC-501. ENVIRONMENTAL ENGINEERING - II

(Old Regulation)

May] [Time: 3 Hours

Maximum: 60 Marks

(For the students joined during 2006-2007 and before)
Answer any ONE Question from each UNIT ***(5×12=60)***
All questions carry equal marks

UNIT-I

1. Explain the classification of sewerage system.

2. Explain the design of sewers with sketches.

UNIT-II

3. Write short notes on:
   a) Joints in sewers
   b) Principle and layout of house drainage system.

4. Explain the one pipe system and two pipe system.

UNIT-III

5. Discuss about the following (a) BOD and its significance (b) Analysis of sewage

6. Explain the following (a) Population equivalent objectives of sewage disposal (b) Sel purification of natural waters.

UNIT-IV

7. Explain the unit process in sewage treatment.

8. Explain the design of septic tanks and disposal arrangements.

UNIT-V

9. Explain the methods of aeration and oxidation pond.

10. Explain the characteristics of sludge and sludge digestors.

Register Number :

Name of the Candidate :

9031

B.E. DEGREE EXAMINATION,2012

(CIVIL ENGINEERING)

(EIGHTH SEMESTER)

CLEC - 802. MAINTENANCE AND REHABILITATION STRUCTURES

(New Regulations)

(For the students joined during 2007-08 and after)

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit.
ALL questions carry equal marks.

UNIT - I

1. Explain the assessment procedure for evaluating a damaged structure. (12)

(OR)

2. What are the various causes of deterioriation? Give one example. (12)

UNIT - II

3. Explain the various properties of concrete. (12)

(OR)

4. Explain all the methods of durability of concrete. (12)

UNIT - III

5. Explain :

   (a) Epoxy injection. (4)

   (b) Vaccum concrete. (4)

   (c) Shot crete. (4)

(OR)

6. Explain the various methods of corrosion protections. (12)

UNIT - IV

7. Explain the various repair techniques in concrete structures.

(OR)

8. Explain :

   (a) Weathering corrosion. (6)

   (b) Chemical disruption. (6)

UNIT - V

9. Explain any one demolition techniques. (12)

(OR)

10. Explain strengthening of concrete structures. (12)

Register Number :

Name of the Candidate :

8 9 1 3

B.E. DEGREE EXAMINATION, 2012

(CIVIL ENGINEERING)

(EIGHTH SEMESTER)

CLEC-703. ENVIRONMENTAL ENGINEERING - II

(New Regulations)

(For the students joined during 2007-08 and after)

May] [Time : 3 Hours

Maximum : 60 Marks

Answer any ONE FULL question from each unit. ALL questions carry equal marks.

UNIT – I

1. Explain the various methods of disposal of sludge with required sketches.

(OR)

Turn Over

2. Explain the different plumbing systems with neat sketches. Make a comparative study among them.

UNIT – II

3. (i) Explain the BOD test and its limitations.

   (ii) What is grit chamber? Give its design criteria.

(OR)

4. List the principles to be adopted while designing water supply and drainage system for a building.

UNIT – III

5. (i) List the various types of testing of sewers.

   (i) How do you test gravity sewers? Explain with neat sketch.

(OR)

6. Explain the construction steps involved in laying of a sewer line with neat sketches.

UNIT – IV

7. Explain the working principle of an activated sludge process and also design the aeration tank with return sludge facility for treating 16 MLD of sewage with a BOD of 122 mg/l.

(OR)

8. Explain the steps involved in laying jointing and testing of sewer lines.

UNIT – V

9. Explain briefly with examples about types of Renewable and Non-renewable resources.

10. Write explanatory notes on:

    (i) Biological magnification.

    (ii) Synergism.

    (iii) Anthropogenic sources of pollution.

    (iv) Plants controlling pollution.