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Question Paper Code: 52961

M.E. DEGREE EXAMINATION, DECEMBER 2015

Elective

Structural Engineering

15PSE502 – FORENSIC ENGINEERING AND REHABILITATION OF STRUCTURES

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

(5 x 20 = 100 Marks)

1. (a) Briefly explain about
- (i) Effects of climate on structures
 - (ii) Effects of temperature on structures
 - (iii) Effects of chemicals on structures. (20)

Or

- (b) Explain in detail about the methods of corrosion protection. (20)
2. (a) (i) Explain in detail about importance of maintenance. (10)
- (ii) Briefly explain about the assessment procedures for evaluating damaged structures. (10)

Or

- (b) Write short notes on types of problems occurred in
- (i) Foundations (7)
 - (ii) Floors (7)
 - (iii) Roofs. (6)

3. (a) List the materials used for repair of reinforced steel structures and explain any three of them in detail. (20)

Or

- (b) (i) Briefly explain about the types of failures occur in fibre reinforced concrete. (12)
- (ii) Write short note on admixtures. (8)

4. (a) Explain in detail about rust eliminators and polymers coating for rebar during repair-formed concrete. (20)

Or

- (b) Briefly explain about
- (i) Gunite and shotcrete (10)
- (ii) Epoxy injection. (10)

5. (a) How will you strengthen the super structure? Explain. (20)

Or

- (b) Explain in detail about demolition of structures using engineered and non-engineered techniques. (20)
