

[5254]-29

**B.E. (Civil Engineering)**  
**FERROCEMENT TECHNOLOGY**  
**(2008 Pattern) (Elective - IV)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Answer Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8, Q. 9 or Q. 10, Q. 11 or Q. 12.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*
- 5) *Use of calculator is allowed.*

**SECTION - I**

- Q1)** a) What is ferrocement? Give the detailed classification of ferrocement and their typical characteristics along with their Applications. [8]
- b) Write a note on “Forming of Ferrocement structures. [5]
- c) Merits and Demerits of ferrocement over RCC. [5]

OR

- Q2)** a) Write a note on job requirements of required skills and also the tools & plants used for ferrocement technology. [5]
- b) What are different properties and specifications of raw materials used for Ferrocement Technology? [5]
- c) What are different properties and specifications of raw materials used for Ferrocement Technology? Also write a note on proportioning of cement mortar. [8]
- Q3)** a) Enlist the various construction methods of ferrocement. Explain the skeleton armature method with advantages and disadvantages. [8]
- b) Explain the effect of creep and shrinkage on ferrocement structures and also the protective surface treatment given to the same. [8]

OR

**Q4) a)** Explain in detail process of constructing ferrocement structures in respect of : **[10]**

- i) planning the work.
- ii) fabricating skeleton
- iii) tying of wire meshes
- iv) mortaring
- v) curing

b) Explain in detail specific surface method and crack control method. **[6]**

**Q5) a)** Draw the neat sketches of various structural forms & Also give the comparative study of behavior forms in respect of strength and design parameters with ferrocement technology. **[10]**

b) What are the special design considerations for ferrocement and typical features of ferrocement affecting design. **[6]**

OR

**Q6) a)** Draw the neat sketches of various structural forms like 'T', 'U', '+', 'L' & Also give the comparative study of behavior forms in respect of strength and design parameters with ferrocement technology. **[10]**

b) Enlist and explain properties of ferrocement structures under static and dynamic loading conditions. **[6]**

### **SECTION - II**

**Q7) a)** Explain the role of ferrocement in building construction of following building accessories: (i) foundations (ii) walls (iii) floors (iv) roofs. **[8]**

b) Enlist and explain factors governing cost and value of ferrocement in building constructions. Also compare cost of ferrocement structures with conventional structures. **[8]**

OR

**Q8) a)** Explain in detail the ferrocement building component you seen with reference to following: material of construction, analysis and design principles, process of construction, quality control and maintenance. **[10]**

b) Explain the special characteristics of ferrocement to resist shock affected during earthquakes. **[6]**

- Q9) a)** Compare all parameters of ferrocement counter forth retaining wall with reference to conventional counter forth retaining wall. [8]
- b)** What is ferrocement? What are its different applications with hydraulic structures. Explain in detail any one. [8]

OR

- Q10)a)** Explain design & method of fabrication and casting of counter forth retaining wall. [8]
- b)** Compare ferrocement container with conventional container for storage of granular materials. [8]

- Q11)a)** Write a note on:Ferrocement precast walling and flooring panels. [6]
- b)** Explain in detail the industrial precast ferrocement concrete elements you seen with : [6]
- i) raw materials of construction
  - ii) analysis and design principles
  - iii) manufacturing process
- c)** Give the testing methodology and quality control for ferrocrete materials. [4]

OR

- Q12)a)** Explain role of ferrocement technology in construction of large size special purpose structures like shell and domes. [8]
- b)** Why ferrocement is use for pre-casting? Give the different methods of ferrocement pre-casting and Explain any one in detail. [8]

