

Total No. of Questions : 12]

SEAT No. :

P3163

[Total No. of Pages : 3

[4859] - 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.*
- 6) *Answers to each section to be written in separate answer sheets.*

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

P.T.O.

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: **[10]**

- i) Foundations.
- ii) Walls.
- iii) Floors.
- iv) Roofs.

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: [10]

material of construction, analysis and design principles, process of construction, quality control and maintenance.

b) Explain the special characteristics of ferrocement to resist shock affected during earthquakes. [8]

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: [6]
Ferrocement precast walling and flooring panels.

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 ferrocreate 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]

