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Roll No.

180755B

5th Sem / Branch : Civil Engineering/Constr. Mgmt.
Sub. :Pre-Stressed Concrete

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory
(10x1=10)

- Q.1 The settlement of a pile as compared to a spread footing is (CO-2)
a) More b) Unrelated
c) Less d) None of these
- Q.2 Pre-stressed helps in avoiding the formation of (CO-1)
a) Diagonal tension b) Excessive deflection
c) Crack formation d) All of these
- Q.3 Post tensioning method is best suitable for production of (CO-1)
a) Electric poles b) Slabs
c) Bridges d) Railway sleepers
- Q.4 A grillage foundation is essentially a (CO-2)
a) Deep foundation b) Pile foundation
c) Shallow foundation d) Spread foundation
- Q.5 Minimum grade of concrete to be used for post-tensioning shall not be than (CO-1)
a) M20 b) M40
c) M30 d) M50

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- Q.6 Loss of pre-stress is maximum due to (CO-1)
a) Friction b) Elastic Shortening
c) Shrinkage of concrete d) Creep of concrete
- Q.7 The number of piles required to support a column is (CO-2)
a) 1 b) 2
c) 3 d) 4
- Q.8 The whole concrete are is effective in (CO-1)
a) Reinforced cement concrete
b) Pre-stressed concrete
c) Plain cement concrete
d) Ready Mix Concrete
- Q.9 Pile foundations are used (CO-2)
a) In wet soils
b) For multistoreyed building
c) In sandy soils
d) None of these
- Q.10 To drive heavy pile in hard soil, the best type of hammer is (CO-2)
a) Single acting b) Drop hammer
c) Double acting d) None of these

SECTION-B

Note: Objective type questions. All questions are compulsory.
(10x2=20)

- Q.11 The bearing capacity of a single pile in clay is mainly due to _____ (CO-2)
- Q.12 Single wire used as steel reinforcement are called a _____ (Tendon/Rod) (CO-1)

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- Q.13 Minimum grade of concrete required for pre-tensioning is _____ (M20/ M40) (CO-1)
- Q.14 The piles having one or more bulbs are called _____. (CO-2)
- Q.15 Pre-stressing help in minimizing the cracks. (True/False) (CO-1)
- Q.16 A raft foundation is also known as _____ (mat foundation/ Pile Foundation) (CO-2)
- Q.17 Conical plug used in Freyssinet system is called _____ (Female/Male) (CO-1)
- Q.18 Pre-stressed concrete members deflect _____ than RCC members (Less/More) (CO-1)
- Q.19 Pre-tensioning is best suited for factory production. (True/False) (CO-1)
- Q.20 The length of pre-cast piles varies from _____ (CO-2)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

- Q.21 What do you understand by the process of pre-tensioning of concrete? (CO-1)
- Q.22 Write any five difference between the pre-tensioning method and post-tensioning method of concrete. (CO-1)
- Q.23 Write short note on tendons. (CO-1)
- Q.24 What is the purpose of temporary gripping device used as pre-stressing equipment? (CO-1)
- Q.25 Enlist the techniques of pre-tensioning. (CO-1)
- Q.26 Write a short note on admixtures used in pre-stressed concrete. (CO-1)

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- Q.27 Write a short note on galvanization. (CO-1)
- Q.28 Write the specifications of admixtures as per IS code, used in pre-stressed concrete. (CO-1)
- Q.29 Write the disadvantages of freyssinet post-tensioning system. (CO-1)
- Q.30 Write the advantages of vibrating method of pile driving. (CO-2)
- Q.31 Enlist the various types of piles based on methods of their installation and describe any one of them. (CO-2)
- Q.32 Describe the working of jacking method of pile driving. (CO-2)
- Q.33 What precaution should be taken into consideration during the operation of pile installation? (CO-2)
- Q.34 Write a short note on small diameter bored cast-in-situ piles. (CO-2)
- Q.35 Under what conditions the pile foundations can be adopted. (CO-2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (10x3=30)

- Q.36 Write the different forms of the pre-stressed tensioned members and explain the process of construction of any one of them with the help of diagram. (CO-1)
- Q.37 Write the various steps for testing of piles by static method. (CO-2)
- Q.38 Explain the working of the Freyssinet post tensioning system with its disadvantages. (CO-1)

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