



RM-7045

B. E. - III (Sem. VI) (Civil) Examination

May / June - 2010

Heavy Construction Engineering

Time : 3 Hours]

[Total Marks :

Instructions :

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
B. E. - 3 (Sem. 6) (Civil)	<input type="text"/>
Name of the Subject :	<input type="text"/>
Heavy Construction Engineering	<input type="text"/>
Subject Code No. : <input type="text"/> 7 <input type="text"/> 0 <input type="text"/> 4 <input type="text"/> 5	Section No. (1, 2,.....): <input type="text"/> 1&2
	Student's Signature

- (2) Answer two sections **separately**.
- (3) Figures to the right indicate full marks.
- (4) Assume missing data suitably with appropriate remarks.
- (5) Draw sketches wherever needed. Answer should be to the point.

SECTION - I

- 1 (a) Answer in one sentence or so : 5
- (i) Name any 2 types of cast-in-situ piles.
 - (ii) Give any **two** advantages of pre-cast piles.
 - (iii) Give any **two** types of steel piles.
 - (iv) Write the use of Anchor piles.
 - (v) Define coefficient of traction.
- (b) Match the following : 5
- | A | B |
|---------------------|----------------------------|
| (i) Hot mix plant | (a) Conveying equipment |
| (ii) Wagon Drill | (b) Bitumin |
| (iii) Belt conveyor | (c) Used in tunnelling |
| (iv) Truck/Dumper | (d) Hauling equipment |
| (v) Pile Hammer | (e) Used for driving piles |

- 2 (a) Discuss in which situation, cast-in-situ piles are preferred. Discuss the stages in its construction. 7
- (b) What is grouting offoundation rocks? Which materials are used for grouting? Discuss method of cement grouting. 7

OR

- 4 (b) Explain the effect of nature of tyre, nature of surface, grade temperature and altitude upon the rolling resistance of an equipment. 7
- 3 (a) Distinguish between special equipment and standard equipment. Explain the conditions in which either to purchase or to hire the equipment. 7
- (b) Sketch Hoe. Explain its functioning. Also state its uses. 7

OR

- (b) Explain the functioning of each part of Bull Dozer with neat sketch. Discuss its suitability.
- 4 Write short notes : (any **three**) 12
- (i) Well point system
- (ii) Pile Load Test
- (iii) Under reamed Piles
- (iv) Economic life of equipment
- (v) Belt conveyor system.

SECTION - II

- 5 Attempt the following : 14
- (a) Enlist different types of coffer dams. Sketch and discuss the features of single wall coffer dam and crib coffer dam.
- (b) Describe construction stages of pneumatic caisson with sketches. Also discuss advantages and disadvantages of the same.

- 6** Attempt any **three** : **18**
- (a) Write tunnel ventilation and tunnel lining techniques.
 - (b) Discuss the different types of explosive used in tunnelling.
 - (c) Write sequence of operations in hard rock tunnelling.
 - (d) Discuss with sketches the commonly used "Drill hole patterns."
- 7** Attempt any **three** : **18**
- (a) Double wal cofferdam
 - (b) Caisson sickness
 - (c) Open caisson with dredging wells
 - (d) Heading and bench method
 - (e) Classification of tunnels.
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