http://www.howtoexam.com m E civil Sem: IF (PTDC) (coshst-manag.)

Advanced construction management. 2416/CB

Con. 3550-08.

VT-May 08 162

(FURTHER REVISED COURSE)

BB-5257

(4 Hours)

[Total Marks: 100

N.B.: (1) Question No. 1 is compulsory.

(2) Attempt any four questions out of remaining six questions.

(3) Assumptions made should be clearly stated.

(4) Illustrate answers with neat sketches wherever required.

- Q-1.a) What are the precautions to be taken for the protection of steel against corrosion. (04)
 - b) Explain the types and utility of shafts in tunnels. (04)
 - c) Explain the advantages and disadvantages of pneumatic caissons. (04)
 - d) Write a note on corrective measures to minimize land-slide hazards. (04)
 - e) Explain the applications of polymer impregnated concrete. (04)
- Q-2.a) What are the preliminary and detailed investigations required to be carried out for selecting a dam site for a dam project? Explain. (08)
 - b) What are the advantages of indirect methods of sub-soil investigations? Explain 'Electrical Resistivity Method'. (06)
 - c) Describe the safety measures required in excavation to avoid accidents. (06)
- Q-3.a) What are the various equipment used for excavation and what factors will you consider in selecting suitable equipment for the excavation work in hand? Explain the factors affecting production of trenching machines. (08)
 - b) What are the requirements of soil stabilisation? Write a detailed note on bituminous (cementing) stabilization. (06)
 - c) Explain the chemical stabilisation using -
 - (i) Lime, and
 - (ii) Aggregants and dispersants.

[TURN OVER

(06)

Q-4.a) Explain the behaviour of expansive soil and precautions required in the d	esign
	(08)
of foundations in expansive soils.	
b) What are the factors affecting liquefaction potential of a soil? What are	
anti-liquefaction measures?	(06)
c) Explain properties and uses of geosynthetics used in construction industry	.(06)
Q-5.a) Discuss the importance of mucking and hauling operations, as one of the	
important links, in the chain of tunneling operations. Describe the various	
car changer techniques for efficient working of mucking operations.	(08)
b) What are the causes of accidents in tunnels? Describe the preventive met	nods
to be taken in various operations of tunnelling.	(06)
c) Name the various methods of tunneling in hard rock. Describe the heading	ng
and bench method of tunnelling.	(06)
Q-6.a) With the help of neat sketches explain types of under water form work.	
Explain the different methods of under water concreting.	(08)
b) Critically compare high strength and high performance concrete.	(06)
c) Describe the slip forms w. r. t. the following:	
(i) essential parts, (ii) operations of slip forms, and (iii) advantages.	(06)
Q-7. a) What are the factors contributing to the cost of form work? Write a note	
on removal of forms.	(05)
b) write a detailed note on design of cofferdams (different pressures on	
cofferdams, stability against different failures etc.).	(05)
c) Why are shoring and underpinning of structures required? What are the	
	(05)
uses of dead shores.	(05)
d) Explain the compressed air tunneling in (i) clay and (ii) in sandy soils.	(03)