

ME - Civil - CBGS

ACT

22/5/15

Q.P.Code No. : **5235**

(3 Hours)

[Total Marks : 80

N.B. : (1) Answer any **four** questions.
(2) Neat labeled sketches and legible handwriting will be appreciated.

- Q.1** (20)
- a Define tunnel. Explain its various components along with a neat sketch.
 - b Tunneling in soft rocks is difficult. Justify.
 - c Enlist the precautions to be taken in mass concreting.
 - d Enlist different types of piles and draw illustrative sketches.
 - e Explain the effect of groundwater movement on the stability of any structure.
- Q.2** (20)
- a Explain the stepwise procedure of underwater tunnel construction.
 - b Write a detailed note on Diaphragm wall construction.
- Q.3** (20)
- a Explain different grouting methods alongwith their suitability. 08
 - b Write a note on vaccum dewatering. 07
 - c How does a concrete pump work ?List the circumstances in which concrete needs to be pumped. 05
- Q.4** (20)
- a Write a note on Well point system as a method of dewatering.
 - b What are the different methods of pile driving ?Describe the working of a diesel hammer with a neat sketch.
- Q.5** (20)
- a What are the different types of cofferdams ?Explain the procedure for installation of cofferdams when a huge dam is to be constructed.
 - b Describe the nature of shuttering in the construction of a bridge by :
 - i. Incremental launching method.
 - ii. Balanced cantilever method.
- Q.6** (20)
- Write short notes on (Any four)
- a Airlocks and its types.
 - b Slip form technique.
 - c Micro piling.
 - d Importance of skin friction.
 - e Caisson and its types.