

B. TECH.**THEORY EXAMINATION (SEM–VI) 2016-17****ADVANCED CONCRETE DESIGN****Time : 3 Hours****Max. Marks : 100**

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided. Attempt all questions. Use of IS:456 allowed. Use M20 & Fe 415

SECTION-A**1 Explain the following :****(10×2=20)**

- a) Explain joints in water tanks.
- b) How you will determine capacity of water tank?
- c) Write live load for gathering spaces
- d) Define codes on culvert design.
- e) Define building frames.
- f) Define earthquake loads.
- g) What is seismic zone?
- h) How much seismic load will increase if we change zone 2 to zone 3?
- i) Name zones of wind in India.
- j) Define high performance concrete.

SECTION-B**2 Attempt any five of the following :****(10×5=50)**

- a) Discuss design requirements as per IS:3370 for water tanks
- b) How you will analyze building frame for lateral loads?
- c) Explain raft foundation for over head water tank.
- d) How you will design deck slab for concentrated load?
- e) Describe with example concept of exact analysis.
- f) Discuss codal recommendations on RCC bridge design.
- g) How you will design deck slab in RCC culvert?
- h) Explain by neat sketches elements of RCC culvert and loads acting on it.

SECTION-C**Attempt any two of the following :****(15×2=30)**

3. Design RCC dome of intze water tank for 250 klitres. Take staging height 22m.sbc 12kn/sqm. Assume other details.
4. Discuss method of design moments calculation in 6 story three bay multistory RCC frame.
5. Design a single slab bridge for the following requirements:
 - a. Clear span =5m
 - b. Clear width of carriage way=7.5m
 - c. Live load class AA loading