

DIPLOMA IN CIVIL ENGINEERING

Term-End Examination

December, 2013

01711

**BICEE-010 : ANALYSIS AND DESIGN OF
BRIDGES**

Time : 3 hours

Maximum Marks : 70

Note : (i) Answer any five questions.

(ii) All questions carry equal marks.

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1. Discuss the various investigations which are required for construction of a bridge at a particular site on the basis of following : **14**
 - (a) Selection of bridge site
 - (b) Preliminary data
 - (c) Preliminary drawings
 - (d) Sub--soil explorations

 2. Explain with neat sketch the continuous girder bridge and balanced cantilever bridge. **14**

 3. Discuss in details the Pre and Post-tensioned bridges with neat sketch. **14**

 4. Discuss in detail suspension bridges with neat sketch. **14**

 5. Illustrate with neat sketch the functions of various types of steel bridges. **14**

6. Discuss the provisions for the following as per IRC codes for Bridges. **14**
- (a) Live Load
 - (b) Impact effect due to vehicles
 - (c) Wind Load
 - (d) Earth pressure including live load surcharge
 - (e) Temperature effects
 - (f) Longitudinal forces caused by the tractive effort of vehicle or by braking of vehicles.
 - (g) Seismic effect.
7. Write short notes on the following : **4x3.5=14**
- (a) Modern trend in bearing design
 - (b) Location of piers and abutment
 - (c) Economic span
 - (d) Expansion bearings
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