(Civil) sem-VI / T.E.-II / 25/11/2014

**QP Code :15050**

[3 Hours]                    [ Total Marks:100

**N.B. :**(1)  Question No. **1** is **compulsory**.
  (2)  Attempt any **four** questions from remaining **Six** questions.
  (3)  Assume appropriate **data** if necessary and state them clearly.

1.  (a)  Explain camber & their types.                                        4
    (b)  Explain classification of road systems in India as per modified Nagpur    6
         plan
    (c)  Vehicle damage factor.                                              5
    (d)  Explain 'PIEV Theory' in traffic Engineering.                       5

2.  (a)  A vertical summit curve is formed when an ascending gradient of 1 in   10
         25 m another ascending gradient of 1 in 100. Find length of the summit
         curve to provide the required stopping sight distance for a design speed
         of 80 kmph.
    (b)  (a)  What are the objects & scope of traffic engineering? Explain briefly.   5
         (b)  Explain peripheral parking.                                     5

3.  (a)  Discuss following with neat sketches with respect to sub surface drainage.   10
              (i)   Lowering of water table.
              (ii)  Control of seepage flow.
    (b)  A bridge has a linear water way of 150m across a stream whose natural   10
         water way is 220m If the average flood discharge is 1200m$^3$/sec Average
         flood depth is 3m calculate afflux under the bridge.

4.  (a)  Discuss various test on aggregates for their suitability.            8
    (b)  Explain the factors affecting the selection of bridge site.         6
    (c)  What are the main objective of conducting origin & destination( O-D)   6
         studies stat at least four applications of O-D. studies.

5.  (a)  Define & explain in brief the following terms related to pavement design   10
              (i)    Equivalent single wheel load.
              (ii)   Vehicle Damage factor.
              (iii)  Lane Distribution factor.
              (iv)   Rigidity factor.

    (b)  Discuss various types of failures in rigid pavements.               10

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