Seat No.

T.E. (Civil) (Semester - V) (Revised)
Examination, May - 2017
TRANSPORTATION ENGINEERING - I
Sub. Code : 66239

Day and Date : Friday, 19 - 05 - 2017   **Total Marks : 100**
Time : 10.00 a.m. to 1.00 p.m.

Instructions : 1) Attempt any three questions from Section I and Section II.
                    2) Use of non-programmable calculator is permitted.

SECTION - I

Q1) a) Explain the requirements of an ideal highway alignment.   **[8]**

   b) Explain in brief: **[8]**
   i)   NHAI.
   ii)   NHDP.
   iii) PMGSY.
   iv)   MSRDC.

Q2) a) Draw cross-section of a road in cutting. Show all the elements.   **[8]**

   b) Enlist the tests conducted on bitumen. Explain any ONE.   **[8]**

Q3) a) Explain the necessity of widening of pavements on curve with sketch. Calculate extra widening required for a pavement width 7 m on a horizontal curve of radius 300 m, if the longest wheel base of vehicle expected is 7 m. Design speed is 60 kmph.   **[8]**

   b) Write the design steps of rigid pavements as per IRC 58-2002.   **[8]**

Q4) a) Explain: **[8]**
   i)   Traffic Volume Study.
   ii)   O and D Study.

   b) Explain 'Regulatory Signs' with neat sketches.   **[8]**

P.T.O.

Q5) Write notes on any THREE. **[18]**

    a) Requirements of good road aggregates.

    b) Requirements of good bitumen.

    c) Highway drainage.

    d) Types of pavements.

    e) D.B.M.

SECTION - II

Q6) a) Explain the main components of an aircraft with a sketch. **[8]**

    b) Explain various Airport Obstructions. **[8]**

Q7) a) What are the assumptions for the basic runway length? State the corrections for Elevation and Temperature. **[8]**

    b) Explain the importance of Wind Rose Diagram with a neat sketch. **[8]**

Q8) a) Explain: **[8]**

      i) Shafts.   ii) Pilot tunnels.

    b) Explain various shapes of tunnels. **[8]**

Q9) a) Explain the Natural phenomena of Tides and Waves. Also, explain 'Wave action'. **[8]**

    b) Explain 'Dry Docks' with a sketch. **[8]**

Q10) Write notes on any THREE. **[18]**

    a) T.B.M.

    b) Safety measures in tunneling.

    c) Navigational Aids for a harbour.

    d) Tunnel lining.

    e) Airport drainage.

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