B.E. Fourth Semester (Civil Engineering) (C.B.S.)

Transportation Engineering – I

(Question bank)

Unit-1

- Discuss the Engineering surveys to be undertaken during the planning of a new road.
- What for Jayakar committee was set-up? What were the recommendations of the committee?
- State the ideal requirement of highway alignment. Explain how the obligatory points influences the alignment of a new road.
- Enlist various test on bitumen? Explain any two with neat sketch.
- What are the various tests for judging the suitability of aggregates? Discuss any two tests in detail.
- Discuss how to judge the suitability of sub-grade soil with the help of Group index method.
- Explain the following terms:- 1) CRF  2) CRRI  3) IRC

Unit-2

- Explain camber? What are the objectives of camber? Discuss the factors on which the amount of camber to be provided.
- Discuss the types & purpose of providing curb with neat sketches.
- Explain "PIEV" theory
- State the primary & secondary objectives of providing transition curve.
- Numerical

**Unit-3**
- Enumerate the factors affecting the design of a pavement.
- Describe the group Index method of flexible pavement design.
- Explain 'Flexible and Rigid' Pavements and bring out the points of difference.
- Write short notes on Joints in cement concrete pavement.
- Numerical

**Unit-4**
- Discuss the traffic volume study in detail. Comment on "30th highest hourly volume of traffic.
- Discuss the parking study in detail.
- Discuss the spot-speed study in detail.
- Write short note on: i) Penetration test on bitumen. ii) Gradients. iii) PCU. iv) 3 E's of traffic Engg. v) ESWL
- Discuss the use of Intelligent transportation system with Indian perspective.
- Explain how the static & dynamic characteristics of vehicle affects the safe driving.
- What are the objectives of carrying out speed study. State the significance of the following terms related with speed study : i) 98th percentile of
speed ii) 85th percentile of speed iii) 15th percentile of speed

Unit-5

- Explain the following terms: i) Clearance
  ii) Afflux
- Derive the condition for economic span of a bridge. State its limitations.
- What are the points to be considered while selecting site for a new bridge.
- Explain the computation of flood discharge by rational approach.
- Explain classification & numbering of bridges
- Enumerate the various forces. Loads and stresses which are to be considered in the design of a bridge.
- Numerical

Unit-6

- Describe the construction of well foundation for a bridge. Also comment on tilting of well
- Describe various types of cofferdams.
- Define the following :- Abutment, pier, Wing wall, cut water, Ease water, cofferdams, Rating of Bridges, Bridge Aesthetics.
- Discuss the Inspection and Repairs of Bridges.
- Write short note on :- I) Economic span.
  ii) Classification & Numbering of bridges.
 iii) Maintenance & Inspection of bridge.
 iv) Bridge aesthetic. v) Culverts.

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