

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-II Examination July 2010****Subject code: 721903****Subject Name: Highway Construction & Management****Date: 07 /07 /2010****Time: 11.00am – 1.30pm****Total Marks: 60****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Which are the different surveys and designs to be done in Detailed Project Report (DPR) of a new Highway Construction Project? **06**
- (b) Write difference between Flexible and Rigid Pavement based on material, cost, design and M&R. **06**

- Q.2** (a) Write construction procedure for WBM roads. Enlist material requirements and specifications. **06**
- (b) Explain WMM, CTAB and GSB. State their functions and probable thickness in highway construction. **06**

OR

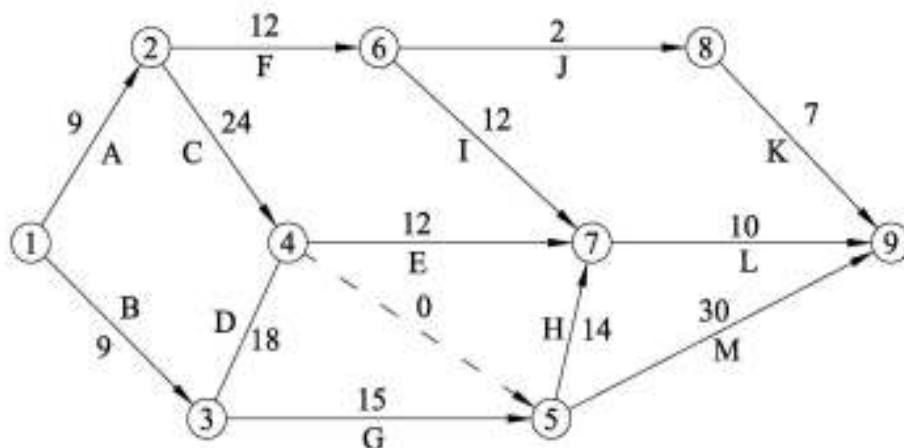
- (b) Explain difference between tack coat and prime coat based on purpose and construction procedure. **06**

- Q.3** (a) Write note: *Bituminous Penetration Macadam* or *Semi-grouting Macadam* construction. **06**
- (b) Explain with detailed flow diagram the process of the hot- mix preparation in mixing plant. **06**

OR

- Q.3** (a) Enlist and state functions of various road making machineries. **06**
- (b) Explain slip-form pavers in cement concrete road construction. **06**

- Q.4** (a) Write detailed note on, “Use of Geosynthetic Material in Highway construction. **06**
- (b) Calculate Total Float (TF) and Free Float (FF) and determine critical path for the activity network given and also show critical path on the network. **06**



OR

- Q.4 (a)** What is Overlay? Why Overlays are constructed? Explain various types of overlays. **06**
- (b)** Explain Pavement Evaluation Methods for Riding Quality and Structural Adequacy. **06**
- Q.5 (a)** Enlist various distresses in Flexible & Rigid Pavement. Why distresses are occurring in pavement? **06**
- (b)** What are the functions of highway drainage? Explain road drainage construction in urban roads with sketches. **06**

OR

- Q.5 (a)** What are the advantages and limitations of CPM to highway projects? **06**
- (b)** Write note on i) M S Project Software **06**
ii) Primavera Software
in construction industry.
