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# CC-722

## M. Tech. EXAMINATION, May 2017

(Third Semester)

(Re-appear Only)

CE(HSE)

CEH-603

GIS IN HIGHWAY ENGINEERING

*Time :* 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

**Note** : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

## Unit I

**1.** (a) Describe different components of a typical remote sensing system. **9**

(b) Distinguish between panchromatic, multi-spectral and hyper-spectral resolution. **6**

**2.** (a) Describe different components of a typical remote sensing system. **9**

(b) Draw a line diagram to show typical wavelength regions of EMS that are useful for remote sensing purposes. **6**

## Unit II

**3.** (a) Differentiate between spatial and non-spatial data. **8**

(b) Which basic functions should be handled by the software component of GIS ? **7**

**4.** (a) Enumerate some applications of GPS. **5**

(b) What are three segments of a GPS ? Explain each segment. **10**



## Unit III

**5.** (a) Differentiate between primary and secondary data acquisition. **9**

(b) What points should be kept in mind while selecting a GIS software ? **6**

**6.** Describe the utility of GIS in system justification and development of an implementation plan. **15**

## Unit IV

**7.** (a) Discuss the role of GIS in ITS. **7**

(b) How traffic congestion problem can be solved using GIS ? **8**

**8.** (a) How GIS help in collecting road inventory ? **8**

(b) Explain the role of GIS in effective transport system management. **7**