

**B.Tech. – VIEP – ELECTRONICS AND  
COMMUNICATION ENGINEERING (BTECVI)**

**Term-End Examination**

00395

December, 2014

**BIELE-001 : TELEVISION ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any **seven** questions. All questions carry equal marks.

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1. (a) Why are an odd number of lines used for scanning in Television (TV) ? How does interlaced scanning help to reduce the bandwidth of the video signal ? 5
- (b) Draw the vestigial sideband (VSB) signal transmitted by a standard TV channel. Locate the picture carrier and the sound carrier on it. Explain why do we use VSB signal for TV transmission and reception. 5
2. Draw the constructional features of a TV receiving antenna and explain the size and spacings of the reflectors and the directors. Draw the radiation pattern of the antenna. 10

3. Draw the circuit diagram of single-ended AFC. Illustrate the operation of the circuit with necessary waveform. 10
4. Draw the block diagram of a colour TV receiver. Explain in brief how does it operate. 10
5. Draw a block diagram of a PAL colour receiver. Explain the functions performed by each block. 10
6. Name the three colour television systems of the world and state their main features. Which system is used in India? 10
7. What is image continuity? Explain positive and negative modulation in TV transmission. 10
8. What is the range of frequencies used in cable TV? Also discuss about cable distribution system. 10
9. Write short notes on any *two* of the following :  
5+5=10
  - (a) Automatic Gain Control (AGC) of TV receiver
  - (b) CCD camera
  - (c) Wave traps and Scrambling methods in Cable TV