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BIELE-001

B.TECH. IN ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00680

Term-End Examination

June, 2013

BIELE-001 : TELEVISION ENGINEERING

Time : 3 hours *Maximum Marks : 70*

Note : *(i) Attempt **seven** questions in all.*

*(ii) Question No. **1** is compulsory.*

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1. (a) What are values of picture IF and sound IF ? **5x2=10**

(b) What is color killer circuit ?

(c) Define flicker.

(d) What is the expression for y-signal ?

(e) What is meant by scrambling ?

2. (a) What is VSB transmission and why is it used for transmission of TV picture signals ? **6**

(b) What do you understand by active and blanking periods in horizontal and vertical scanning ? **4**

3. What do you understand by interlace error and how does it affect the quality of the picture ? Calculate the % interlace error when the second field is delayed by 8μs. **10**

4. Explain the separation of vertical and horizontal sync pulses in TV receiver with circuit diagram. 10

5. What are the essential functions of IF section of a receiver ? With help of output voltage versus frequency response diagram of the IF section, explain how vestigial sideband correction is carried out. 10

6. Explain with a suitable block diagram the encoding process in the PAL colour system. Why is the colour burst signal transmitted after each scanning line ? 10

7. Discuss the relative merits and demerits of the three television systems. Explain the factors which influence the choice of any one of the three systems. 10

8. Explain the schematic diagram of a modern cable TV system, and also discuss briefly the scrambling methods. 10

9. Explain I and Q demodulators. Why different bandwidths are assigned to Q and I signals ? 10

10. Write short notes on *any two* of the following : 2x5=10
    (a) Automatic brightness control
    (b) PAL
    (c) AGC and AFC
    (d) Digital TV