



## XII Std. Open Book Test-6: Study of Integrated Circuits

Max. Marks: 24

**Ques 1:** Fill in the blanks: (1+1+1+1+1=5)

- 1) The Pin-3 of IC555 is called as \_\_\_\_\_. (trigger pin, reset pin, output pin)
- 2) The discharge transistor in IC555 is internally connected to pin \_\_\_\_\_ of the IC. (8, 7, 5)
- 3) In MMV using IC555, if  $R_1 = 100k\Omega$  and  $C = 10\mu F$ , it's on time  $T =$  \_\_\_\_\_. (10sec, 1 sec, 0.1sec)
- 4) The maximum output current of LM317 IC is \_\_\_\_\_. (1.5A, 1.25A, 37V)
- 5) In FSK using IC555, it converts binary '1' input into the equivalent frequency \_\_\_\_\_. (1070Hz, 1270Hz, 1170Hz)

**Ques 2:** Draw the circuit of photo relay using IC741 and explain its working in both light and dark conditions. (1+3=4)

**Ques 3:** What is AMV? Draw its circuit using IC555 and explain its working with waveforms. (1+3=4)

**Ques 4:** Explain the working adjustable voltage regulator using LM317 with diagram. (1+2=3)

**Ques 5:** Draw the internal block diagram of IC555 and explain its working. (1+3=4)

**Ques 6:** Explain the working FSK using IC555. Derive the output frequency values in both inputs of binary values i.e. binary '1' and binary '0'. (2+2=4)



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