

R09

Code No: 09A50201

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**

**B. Tech III Year I Semester Examinations, May/June – 2013**

**IC Applications**

**(Common to EEE, ECE, ETM)**

**Time: 3 hours**

**Max. Marks: 75**

**Answer any five questions**

**All questions carry equal marks**

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- 1.a) Write about the parameters that should be considered for ac and dc applications of operational amplifier.
- b) What are the ideal characteristics of the operational amplifier and how do they differ practically?
- c) Explain why open loop op-amp configurations are not used in linear applications. [4+6+5]
- 2.a) Discuss the operation of a FSK generator using 555 timer.
- b) Write about the design aspects of IC 1496 balanced modulator. [7+8]
- 3.a) Explain about IGMF configuration in active filter design.
- b) Distinguish between active and passive filters. [10+5]
- 4.a) Draw the functional diagram and connection diagram of sample and hold IC LF 398 and explain.
- b) What are the applications of sample and hold circuit? [10+5]
- 5.a) Discuss about successive approximation converter with necessary diagrams.
- b) Explain about ladder type DAC with neat diagram. [7+8]
- 6.a) Draw the functional block diagram of IC 555 timer and explain the significance of each block.
- b) What are the applications of PLL? Explain any one of it in detail. [7+8]
- 7.a) Explain about TTL NAND gate with necessary diagrams.
- b) Write about applications of TTL gate. [10+5]
- 8.a) Draw the logic diagram of J-K Flip-Flop and how to convert a J-K Flip-Flop to D Flip-Flop.
- b) Explain the working of Decade counter using IC74XX. [7+8]

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