



B.E DEGREE EXAMINATIONS: MAY 2017

(Regulation 2015)

Fourth Semester

ELECTRONICS AND COMMUNICTAION ENGINEERING

U15ECT401: Linear Integrated Circuits and Applications

COURSE OUTCOMES

- CO1:** Describe the characteristics of Operational amplifiers.
CO2: Develop and analyze operational amplifier applications circuits.
CO3: Demonstrate the applications of analog multipliers.
CO4: Discuss the operation of PLL and its application.
CO5: Build data converters for the given specifications.
CO6: Illustrate the operation of 555 timer and other special function ICs.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match the characteristics of the Ideal Operational Amplifier

CO1 [K₁]

List I	List II
A. CMRR	i. Zero
B. Output Impedance	ii. Zero to Infinity
C. Frequency Response	iii. infinity
D. Output of Ideal Op-amp	iv. $A(V_2 - V_1)$

- | | A | B | C | D |
|----|-----|----|-----|----|
| a) | ii | i | iii | iv |
| b) | iii | iv | ii | i |
| c) | ii | iv | iii | i |
| d) | iii | i | ii | iv |
2. _____ is used as military grade op amp with high slew rate?

CO1 [K₁]

- | | |
|---------|---------|
| a) 741C | b) 741E |
| c) 741S | d) 741A |

23. (i) Discuss the principle and working of RC Phase Shift Oscillator. (10) CO2 [K₂]
(ii) Design RC Phase Shift Oscillator for frequency of 100 Hz. Assume C=0.1μF. (4) CO2 [K₆]
24. Explain the operation of PLL with neat block diagram and deduce the expression for Capture Range of PLL. CO4 [K₄]
25. Describe the operation of Successive approximation ADC with neat block diagram. CO5 [K₃]
26. Draw and explain the functional block diagram of IC555 timer. CO6 [K₁]
27. Explain in detail about IC LM723 voltage regulator and list its applications. CO6 [K₁]
