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C16-EE-405

**6444**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**JUNE/JULY—2022**

**DEEE - FOURTH SEMESTER EXAMINATION**

**ELECTRONICS ENGINEERING - II**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**PART—A**

**3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the conditions required for sustained oscillations.
2. State the need for RF oscillators.
3. Define CMRR (common mode rejection ratio) of differential amplifier.
4. List the characteristics of an ideal op-amp.
- \* 5. Define amplitude modulation.
6. Define frequency deviation.
7. List the applications of CRO.
8. State the need for A/D converters.
9. Define transducer.
10. List the applications of sensors.

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## PART—B

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Draw the circuit diagram of Colpitts oscillator. 5  
(b) Draw the circuit diagram of Hartley oscillator. 5
- 12.** Explain the working of UJT relaxation oscillator. 10
- 13.** Explain the working of op-amp inverting amplifier with input and output waveforms. 10
- 14.** Draw and explain the internal block diagram of IC 555 timer. 10
- 15.** (a) Draw the waveforms of frequency modulated waves. 5  
(b) Compare AM and FM. 5
- 16.** Explain D/A conversion using R-2R ladder network. 10
- 17.** Explain the measurement of temperature using thermister in bridge circuit. 10
- \* **18.** (a) Explain the factors influencing the choice of a transducer. 5  
(b) Explain the working principle of strain gauge. 5

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