

March 2026

Sri Mahalingeswara ITI

Question Paper

Duration: 30 Mins

Total Marks: 14

ID: ITISKILL874950

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| Student Name: _____ | Roll No: _____ |
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1. Which circuits commonly use parallel-fed Hartley oscillators?

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|----------------------------------|-------------------------|
| A) Automatic voltage stabilizers | B) Television receivers |
| C) Radio receivers | D) Stereo amplifiers |

2. Why LC tuned circuits are not used in audio frequency oscillators?

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|--|--|
| A) LC components are not available | B) LC values required is too large |
| C) LC tank circuit does not produce AF signals | D) LC tank circuit operation requires high voltage |

3. What type of feed back is used by the Wein-bridge oscillator to oscillate the signal?

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| A) Both positive and negative feedback | B) Negative feedback |
| C) No feedback | D) Positive feedback |

4. How many time constant period is required to fully charge a capacitor?

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|---------------------|----------------------|
| A) 3 time constants | B) 10 time constants |
| C) 7 time constants | D) 5 time constants |

5. What is the difference of Colpitts oscillator compare to Hartley oscillator?

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| A) Uses SCR combination | B) Uses crystal oscillator |
| C) Uses split capacitor | D) Uses split inductor |

6. What type of arrangement is required to sustain the oscillations of the oscillator circuit?

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|----------------------------------|-----------------------------------|
| A) Provide regenerative feedback | B) Increase the bias voltage |
| C) Provide negative feedback | D) Increase the value of inductor |

7. Which is the transistor used to operate the Colpitts oscillator?

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| A) AC 127 | B) AC 188 |
| C) BC 148B | D) BF 194B |

8. What is the percentage of charge accumulated by the capacitor at the end of 2 time constant limit?

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|--------|----------|
| A) 0.4 | B) 0.632 |
| C) 0.5 | D) 0.864 |

9. How to improve the frequency stability in oscillator circuits?

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| A) Improve the property of circuits | B) Using L and C |
| C) Increase the supply voltage | D) By using quartz crystal |

10. What is the natural shape of a quartz crystal?

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| A) Hexagonal prism with pyramid at ends | B) Cylindrical shape with pyramid at ends |
| C) Cube shape with pyramid at ends | D) Pentagonal prism with pyramid at ends |

11. How many time constants required to change a capacitor to 63.2% of its full charge voltage?

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|----------------------|------------------------|
| A) One time constant | B) Four time constant |
| C) Two time constant | D) Three time constant |

12. Which circuit is determined by the frequency of LC tank circuit?

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|----------------|---------------|
| A) Demodulator | B) Amplifier |
| C) Multiplexed | D) Oscillator |

13. What is the resonant frequency range of a crystal?

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|---------------------------|---------------------------|
| A) Between 0.1 and 10 MHz | B) Between 0.5 and 30 MHz |
| C) Between 0.5 and 25 MHz | D) Between 0.1 and 1MHz |

14. How to overcome the problem of frequency drift in LC oscillators?

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|--------------------------------------|---|
| A) Provide negative feedback | B) Using high Q coils and good quality capacitors |
| C) Apply opposite polarity of signal | D) Increase the supply voltage |