

Time: 2:00 Hours

Marks: 50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Que.1 Answers the following questions (any two). (10)
- (1) Explain Newton's law of gravitation.
 - (2) What is weightlessness? Explain it in a satellite.
 - (3) Write a note on GPS.
- Que.2 Answers the following questions (any two). (10)
- (1) Derive an expression for the efficiency of a half wave rectifier.
 - (2) Explain the working of full wave bridge rectifier.
 - (3) Explain filters circuits and capacitor filter.
- Que.3 Answers the following questions (any two). (10)
- (1) Write a note on transistor.
 - (2) Explain common emitter connection in detail.
 - (3) Describe voltage (potential) divider bias method for transistor biasing.
- Que.4 Answers the following questions (any five). (10)
- (1) What is Gravitational Potential?
 - (2) Discuss Kepler's law of orbits.
 - (3) Write the applications of GPS.
 - (4) What is ripple factor? Find its value for half wave rectifier.
 - (5) Write the comparison of rectifiers.
 - (6) Discuss voltage stabilization.
 - (7) Write the comparison of transistor connections.
 - (8) Write the names of methods of transistor biasing.
 - (9) Define stability factor.
- Que.5 Answers the following questions (any two). (10)
- (1) Write a note on escape velocity.
 - (2) Write a note on Zener diode.
 - (3) Explain base resistor method for transistor biasing.
