

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022  
(Third Semester)

Branch – ELECTRONICS

ELECTRONIC CIRCUITS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 A half wave rectifier requires ----- diode(s).  
(i) 1 (ii) 2  
(iii) 3 (iv) 4
- 2 In which of the following region, does a transistor acts as an amplifier?  
(i) Active (ii) Breakdown  
(iii) Saturation (iv) Cut-off
- 3 What happens when the class B amplifier is in a quiescent state?  
(i) No current flows through the transistor  
(ii) Maximum current flows through the transistor  
(iii) Half of the maximum current flows through the transistor  
(iv) Quartier of the maximum current flows through the transistor
- 4 A negative feedback in an amplifier  
(i) Improves signal to noise ratio (ii) Decreases signal to noise ratio  
(iii) Increases noise (iv) Increases phase distortion
- 5 Which one of the following is also known as free-running multivibrator?  
(i) Astable Multivibrator (ii) Bi-stable Multivibrator  
(iii) Mono stable Multivibrator (iv) Schmitt Trigger

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Define rectifier.  
OR  
b Draw and describe the operation of capacitor filter.
- 7 a What is an amplifier?  
OR  
b Draw the symbol of FET and state any two applications.
- 8 a How does a class A and class B amplifiers differs in operation?  
OR  
b Write a short note on power dissipation.
- 9 a What are the two types of feedbacks? Define them.  
OR  
b Describe current series feedback with a help of a diagram.
- 10 a What is a multivibrator? What are its types?  
OR  
b State Barkhausen criterion.

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Draw and explain the operation of bridge rectifier.  
OR  
b Describe the operation of IC based regulated power supply with help of a diagram.
- 12 a State and explain the various methods of transistor biasing.  
OR  
b With an aid of circuit diagram, explain the operation of direct coupled amplifier.
- 13 a Explain the working of class AB amplifier with aid of a circuit diagram.  
OR  
b Explain the types of distortion and how it can be eliminated in an amplifier circuit.
- 14 a Elucidate the basic concept of negative feedback in an amplifier circuit.  
OR  
b Describe the operation of voltage shunt feedback with a help, of circuit diagram.
- 15 a Draw and describe the operation of Hartley oscillator.  
OR  
b Draw and explain the operation of a Schmitt trigger.

Z-Z-Z

END