PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Second Semester)

Branch - **ELECTRONICS**

ELECTRONIC CIRCUITS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which component is essential in a basic half-wave rectifier circuit? a) Transformer b) Capacitor c) Diode d) Transistor	K1	CO1
	2	Which of the following ICs is commonly used as a variable voltage regulator? a) LM7805 b) LM741 c) 555 Timer d) LM317	K2	CO1
2	3	What is the phase difference between input and output in a CE amplifier? a) 0° b) 90° c) 180° d) 360°	K1	CO2
	4	What is the main function of a Common Source (CS) FET amplifier? a) Signal amplification b) Voltage rectification c) Power generation d) Frequency modulation	K2	CO2
3	5	Class B amplifiers are typically used in a) Oscillators b) Audio power amplifiers (push-pull configuration) c) Voltage regulators d) Signal mixers	K1	CO3
	6	What is the main purpose of using a push-pull amplifier configuration? a) To reduce voltage gain b) To increase crossover distortion c) To amplify both halves of the input signal d) To work as a passive filter	K2	CO3
4	7	Which of the following is not a type of feedback used in amplifiers? a) Voltage-series feedback b) Current-shunt feedback c) Power-parallel feedback d) Voltage-shunt feedback	K1	CO4
	8	In current shunt feedback, the feedback signal is taken from the a) Output current b) Output voltage c) Input voltage d) Input current	K2	CO4
5	9	In a Hartley oscillator, the phase shift around the loop is a) 0° b) 90° c) 180° d) 360°	K1	CO5
	10	How many stable states does a monostable multivibrator have? a) Two b) One c) None d) Three	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Draw and label a bridge rectifier circuit. Show the waveform at each stage.	K3	CO1
		(OR)		
	11.b.	Calculate the output ripple for a given LC filter in a power supply.		
2	12.a.	Classify the role of an emitter follower.	K2	CO2
		(OR)		
	12.b.	Summarize how signal amplification is achieved in a multistage amplifier.		
3	13.a.	Infer the conduction angle of a given waveform for Class C operations.	K2	CO3
		(OR)		
	13.b.	Explain about stage efficiency in amplifiers.		
4	14.a.	Categorize the operation of positive feedback.	K4	CO4
		(OR)		
	14.b.	Analyze the effect of current series feedback and its advantages.		
5	15.a.	Derive the frequency of oscillation for a Colpitt's oscillator.	K3	CO5
		(OR)		
	15.b.	Organize and explain the concepts of the schmitt trigger.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain how the regulator power supply operates when using an integrated circuit (IC).	K2	CO1
2	17	Analyze the phase relationship between input and output in a CE amplifier.	K4	CO2
3	18	Identify the function of Class A operations.	K3	CO3
4	19	Classify the operation of the voltage shunt feedback.	K4	CO4
5	20	Explain the operation of the astable multivibrator with suitable examples.	K2	CO5

Z-Z-Z END