PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2025
(Fourth Semester)

Branch - ELECTRONICS

POWER ELECTRONICS

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	For an SCR in the reverse blocking mode, (practically)_____ a) leakage current does not flow b) leakage current flows from anode to cathode c) leakage current flows from cathode to anode d) leakage current flows from gate to anode	K1	CO1
	2	Which of the given device is the fastest switching device? a) MOSFET b) Triode c) BJT d) JEFT	K2	
2	3	A free wheeling diode in phase-controlled rectifiers____ a) Stops rectifier operations b) Improves line power factor c) Is the reason for additional harmonics d) Is the reason for the sudden breakdown	K1	CO2
	4	What is the length of the arc generally? a) 1mm – 2mm b) 2mm – 3mm c) 3mm – 4mm d) 4mm – 5mm	K2	
3	5	Which of the following is not a characteristic of an ideal transducer? a) High dynamic range b) Low linearity c) High repeatability d) Low noise	K1	CO3
	6	Which of the following is an analog transducer? a) Encoders b) Strain gauge c) Digital tachometers d) Limit switches	K2	
4	7	What is humidity sensor? a) Hygrometer b) Gyroscope c) Sesimoscope d) Sundial	K1	CO4
	8	What is the standard form of RTD? a) Resistance Temperature Detector b) Rectifier Temperature Detector c) Response Temperature Detector d) None of the above	K2	
5	9	Metal surfaces of smaller areas embedded in PCB's are _____. a) Traces b) Planes c) Targets d) Region	K1	CO5
	10	Which terminology of PCB represents a thin photo-sensitive polymer by supporting photographic pattern of single traces or IC pads for etching? a) Prepreg b) Etching c) Photo-resist d)Solder mask	K2	

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.	Illustrate the function of UPS with neat sketch.	K2	CO1
		(OR)		
	11.b.	Explain the principle of FAN regulator with diagrams.		
2	12.a.	Identify the types of resistance welding.	K3	CO2
		(OR)		
	12.b.	Develop a heat control circuit and explain.		
3	13.a.	Show and explain the pressure gauge manometer.	K3	CO3
		(OR)		
	13.b.	Construct an electromagnetic flow meter and explain it.		
4	14.a.	Write the function of strip tension controller.	K4	CO4
		(OR)		
	14.b.	Conclude the function of humidity controller and write its applications.		
5	15.a.	Compare the various types of PCBs.	K4	CO5
		(OR)		
	15.b.	List out the procedure for component mounting with examples.		

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	Examine the function of cyclo converter with diagrams.	K4	CO1
2	17	Explain the Energy storage welding system with neat sketch.	K4	CO2
3	18	Explain the strain gauge method of displacement with diagrams.	K4	CO3
4	19	Conclude the humidity control in textile moistening process.	K4	CO4
5	20	Explain the etching process in detail.	K4	CO5

Z-Z-Z   END