

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Fifth Semester)

Branch – ELECTRONICS

INDUSTRIAL & POWER ELECTRONICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 Inverters convert _____.
(i) dc power to dc power (ii) dc power to ac power
(iii) ac power to ac power (iv) ac power to dc power
- 2 A chopper is a _____.
(i) Time ratio controller (ii) AC to DC converter
(iii) DC transformer (iv) High speed semiconductor switch
- 3 Which of the following is of high value in case of induction heating?
(i) Voltage (ii) Current
(iii) Frequency (iv) All of the above
- 4 In resistance welding _____.
(i) Heat is produce by arc (ii) Filler metal is used
(iii) Heat is produced by passing arc (iv) None of the above
- 5 Which of the following effects can be used to produce ultrasonic waves?
(i) Magnetostriction effect (ii) Doppler Effect
(iii) Magnetic effect (iv) Sound effect
- 6 The flow meter which can not measure bidirectional flow is _____.
(i) ultrasonic flowmeter (ii) turbine meter
(iii) Electromagnetic flow meter (iv) coriolis flow meter
- 7 A single and fundamental form of load cell which is basically used as a transducer in the operation of a weighing machine undergoes the conversion of _____.
(i) Force into an electrical signal (ii) Pressure into an electrical signal
(iii) Acceleration into an electrical signal (iv) Velocity into an electrical signal
- 8 Which of the following is an open loop control system ?
(i) Field controlled D.C. motor (ii) Ward leonard control
(iii) Metadyne (iv) Stroboscope
- 9 PCB should be fabricated with ----- layers
(i) 2 (ii) 3
(iii) 5 (iv) 6
- 10 _____ is used to protect the remaining area of the wafer.
(i) Tin foil (ii) Wood
(iii) Photoresist layer (iv) Sodium bicarbonate

Cont...

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a Discuss about the principle of DC chopper.
OR
b Explain the working of Flasher circuits.
- 12 a Elucidate about the resistance welding.
OR
b Analyze the sequence timer.
- 13 a List out the applications of Ultrasonics.
OR
b Examine the turbine flow meter.
- 14 a Explain the operation of Automatic weighing system.
OR
b Describe the Warehouse humidity controller.
- 15 a Highlight the cupric chloride etching.
OR
b Discuss about the layout preparation.

SECTION -C (40 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16 a Explain working principle of fan regulator using TRIAC.
OR
b Distinguish the SCR current limiting circuit breaker.
- 17 a Describe about the Non-synchronous timer.
OR
b Summarise about the induction heating and application of induction heating.
- 18 a Discuss about the resistive and ultrasonic method of level measurements.
OR
b Elucidate the strain gauge method of displacement measurement.
- 19 a Analyze the proportional mode pressure control system.
OR
b Explain the Strip tension controller.
- 20 a Examine the process of component mounting.
OR
b Enumerate the drilling and soldering techniques.

Z-Z-Z

END