



### XII Std. Open Book Test-2: Power Supply

Max. Marks: 24

**Ques 1:** Fill in the blanks: (1+1+1+1+1=5)

- 1) The average DC voltage of bridge rectifier circuit is \_\_\_\_\_. (0.318Vp, 0.636Vp, 0.5Vp)
- 2) The ripple frequency of FWR is \_\_\_\_\_. ( $2 \times F_{in}$ ,  $0.5 \times F_{in}$ ,  $F_{in}$ )
- 3) The PIV of a diode in FWR is equal to \_\_\_\_\_. (Vp, 2Vp, 0.5Vp)
- 4) In RC filter circuit the value of each R must be \_\_\_\_\_ times greater than C. (3, 10, 0.4)
- 5) The frequency of pulse generator in SMPS is generally \_\_\_\_\_. (50kHz, 10kHz, 20kHz)

**Ques 2:** Explain the working of shunt zener regulator with neat circuit diagram and derivation. (3+1=4)

**Ques 3:** How we can use LM340-x as variable voltage regulator? Explain with neat circuit diagram. (1+2=3)

**Ques 4:** Draw the circuit of transistorized voltage regulator and explain its working with derivation. (1+3=4)

**Ques 5:** Explain working of capacitor filter circuit with neat diagram. What is T-type &  $\pi$ -type filters circuits? Explain in brief with diagrams. (2+2=4)

**Ques 6:** Calculate average DC voltage of FWR if transformer turns ratio is 10:2 with mains voltage = 200Vrms. (4)



### XII Std. Open Book Test-2: Power Supply

Max. Marks: 24

**Ques 1:** Fill in the blanks: (1+1+1+1+1=5)

- 1) The average DC voltage of bridge rectifier circuit is \_\_\_\_\_. (0.318Vp, 0.636Vp, 0.5Vp)
- 2) The ripple frequency of FWR is \_\_\_\_\_. ( $2 \times F_{in}$ ,  $0.5 \times F_{in}$ ,  $F_{in}$ )
- 3) The PIV of a diode in FWR is equal to \_\_\_\_\_. (Vp, 2Vp, 0.5Vp)
- 4) In RC filter circuit the value of each R must be \_\_\_\_\_ times greater than C. (3, 10, 0.4)
- 5) The frequency of pulse generator in SMPS is generally \_\_\_\_\_. (50kHz, 10kHz, 20kHz)

**Ques 2:** Explain the working of shunt zener regulator with neat circuit diagram and derivation. (3+1=4)

**Ques 3:** How we can use LM340-x as variable voltage regulator? Explain with neat circuit diagram. (1+2=3)

**Ques 4:** Draw the circuit of transistorized voltage regulator and explain its working with derivation. (1+3=4)

**Ques 5:** Explain working of capacitor filter circuit with neat diagram. What is T-type &  $\pi$ -type filters circuits? Explain in brief with diagrams. (2+2=4)

**Ques 6:** Calculate average DC voltage of FWR if transformer turns ratio is 10:2 with mains voltage = 200Vrms. (4)



### XII Std. Open Book Test-2: Power Supply

Max. Marks: 24

**Ques 1:** Fill in the blanks: (1+1+1+1+1=5)

- 1) The average DC voltage of bridge rectifier circuit is \_\_\_\_\_. (0.318Vp, 0.636Vp, 0.5Vp)
- 2) The ripple frequency of FWR is \_\_\_\_\_. ( $2 \times F_{in}$ ,  $0.5 \times F_{in}$ ,  $F_{in}$ )
- 3) The PIV of a diode in FWR is equal to \_\_\_\_\_. (Vp, 2Vp, 0.5Vp)
- 4) In RC filter circuit the value of each R must be \_\_\_\_\_ times greater than C. (3, 10, 0.4)
- 5) The frequency of pulse generator in SMPS is generally \_\_\_\_\_. (50kHz, 10kHz, 20kHz)

**Ques 2:** Explain the working of shunt zener regulator with neat circuit diagram and derivation. (3+1=4)

**Ques 3:** How we can use LM340-x as variable voltage regulator? Explain with neat circuit diagram. (1+2=3)

**Ques 4:** Draw the circuit of transistorized voltage regulator and explain its working with derivation. (1+3=4)

**Ques 5:** Explain working of capacitor filter circuit with neat diagram. What is T-type &  $\pi$ -type filters circuits? Explain in brief with diagrams. (2+2=4)

**Ques 6:** Calculate average DC voltage of FWR if transformer turns ratio is 10:2 with mains voltage = 200Vrms. (4)