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Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Exam, Summer 2022

Course Code: CSE 212 (Day), Course Title: Basic Electronics

Level: 2 Term: 1 Section: PC-C & PC-D

Time: 1 hour 30 min **Marks: 25**

1. a) Which semiconductors are commonly used & why? Define the energy band of semiconductors with necessary figure. 5

2. a) Show that in half-wave rectification, a maximum of 40.6% of ac power is converted into dc power. 5

   b) Figure (2b) shows the bridge type circuit having the load resistance 100Ω and transformer turn ratio 5: 1. The primary is connected to 230 V, 50 Hz supply. Find the dc voltage and PIV for dc output. Assume the diodes to be ideal. 5

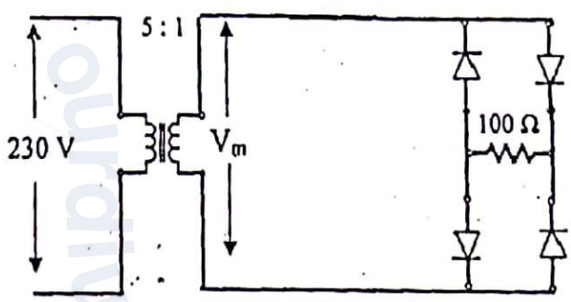


Fig. 2b

3. a) What do you mean by filter circuits? Explain the operation of a capacitor input filter or π filter with appropriate diagram. 5

   b) Suppose a circuit has a series resistance R, two Zener Diodes which are connected in parallel with the load. Each diode rated at 20 V. The current through the diode is 160 mA. If the input voltage of the circuit is 60 V & the value of load resistance is 1.2 KΩ then find the value of series resistance. 5

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