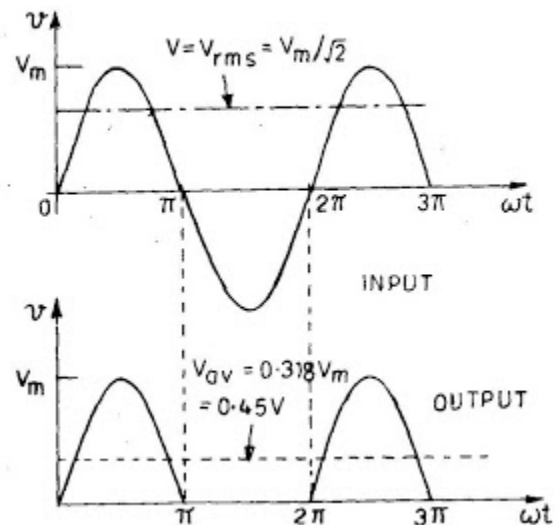
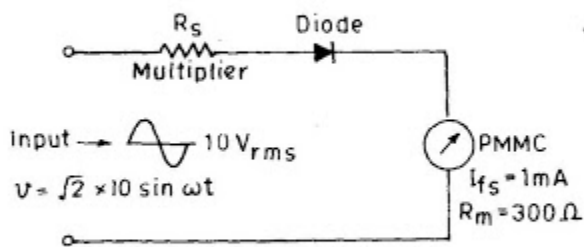
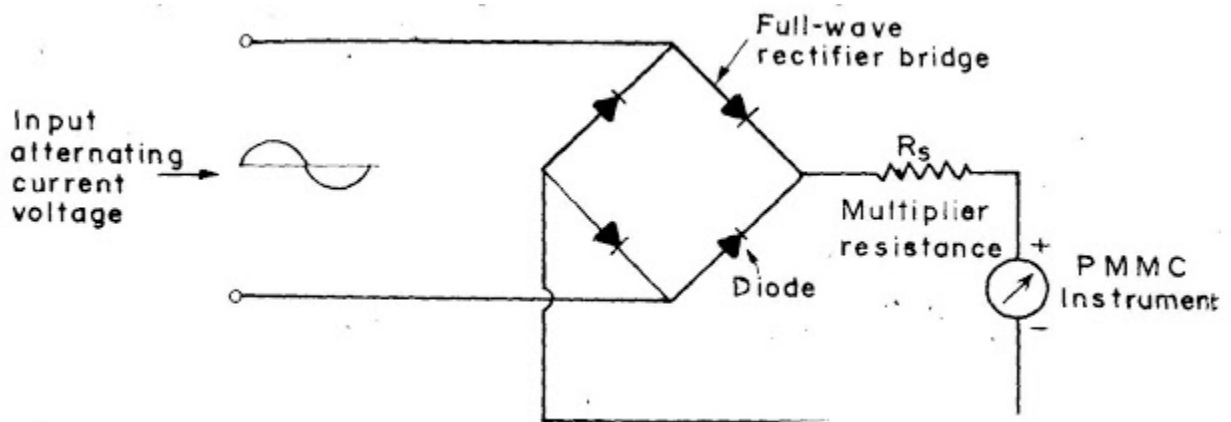


RECTIFIER TYPE INSTRUMENTS

- Rectifier type instruments are used for measurement of ac. voltages and currents by employing a rectifier element, which converts a.c. to a unidirectional d.c. and then using a meter responsive to d.c. to indicate the value of rectified a.c.
- The indicating instrument is PMMC instrument, which uses a d'Arsonval movement.
- This method is very attractive since PMMC instruments have a higher sensitivity than the electro-dynamometer or the moving iron instruments. The arrangement which employs a full wave



(Fig) voltmeter using full wave rectifier

Digital Voltmeter

- A digital voltmeter (DVM) displays the value of a.c. or d.c. voltage being measured directly as discrete numerals in the decimal number system.
- Numerical readout of DVMs is advantageous since it eliminates observational errors committed by operators.
- The errors on account of parallax and approximations are entirely eliminated.
- The use of digital voltmeters increases the speed with which readings can be taken.
- A digital voltmeter is a versatile and accurate voltmeter, which has many laboratory applications.
- On account of developments in the integrated circuit (IC) technology, it has been possible to reduce the size, power requirements and cost of digital voltmeters.
- In fact, for the same accuracy, a digital voltmeter now is less costly than its analog counterpart.
- The decrease in size of DVMs on account of use of ICs, the portability of the instruments has increased.

Types of DVMs

The increasing popularity of DVMs has brought forth a wide number of types employing different circuits. The various types of DVMs in general use are

- (i) Ramp type DVM
- (ii) Integrating type DVM
- (iii) Potentiometric type DVM
- (iv) Successive approximation type DVM
- (v) Continuous balance type DVM