SCHEME OF VALUATION

(Scoring Indicator)

Revision : 2015				Course Code :2041
Course Title :Basic Electronics				
Qst No	Scoring Indicator	Splitup Score	Sub Total	Total
	Part – A			
I (1)	Capacitor Resistor	2	2	2
I (2)	Disc,Electrolytic	2	2	2
I (3)	Adding impurity to a pure semiconductor to improve the conductivity	2	2	2
I (4)		2	2	2
I (5)	Active,saturation,cutoff	2	2	2
	Part – B			
II (1)	Works on the principle of mutual induction of 2 coils or Faradays laws of electromagnetic induction **Fig** Fig	 3 3	 3 3	6
II (2)	Zener diode	1 1 1 1 1 1	1 1 1 1 1 1	6

II (3)	In a halfwave rectifier current flows through the secondary of a power transformer in the same direction It has the advantage of low cost and has high ripple amplitude and low output voltage			
II (4)	In a series positive clipper, a diode is connected in series with the output .During the positive half of the input voltage terminal A is positive with respect to to B. This reverse biases the diode and it acts as an open switch.	1.5 1.5 1.5 1.5	1.5 1.5 1.5 1.5	6
II (5)	Tunnel diode is the P-N jn diode that exhibits negative resistance when the voltage is increased hen the current flowing through it decreases. works on the principle of tunneling effect	3 3	3 3	6
II (6)	CE configuration of an NPN transistor is called class A amplifier. In this the transistor base terminal is biased in such a way as to forward bias the base emitter junction	1.5 1.5 1.5 1.5	1.5 1.5 1.5 1.5	6
II (7)	Function of a regulator is to provide a control output voltage to a load connected in parallel with it inspite of the ripples in the supply voltage.Zener diode will continue to regulate the voltage until the diode current falls below the minimum value	1.5 1.5 1.5 1.5	1.5 1.5 1.5 1.5	6
	Part – C			
III (a)	Air core, Iron core and ferrite core Colour coding	2 2 2 2		8
III (b)	Colour coding	1.5 1.5 1.5 1.5 1		7
1V (a)	Energy may be delivered by a source to a capacitor or the stored energy in a capacitor may be released in an electrical network and delivered to a load. In a RC network,the rate at which the charge or discharge depends on the 'RC' of the network.The nature of charging and discharging process of a capacitor is exponential			8
IV(b)	Effective capacitance in series=1/c1+1/c2+1/c3 Effective capacitance in parallel=c1+c2+c3			7
V(a)	Three important energy bands are valence band, conduction band and forbidden band. Insulator is a material with large energy gap Conductor is a material having zero energy gap Materials in which the conduction and valence bands are separated by a small energy gap are semiconductors	2 2 2 2		8

V(b)	Knee voltage is the minimum amount of voltage required for conducting the diode Static resistance of a diode is used in DC as the ratio of voltage and current at any point on the V-I characteristics of the diode Dynamic resistance is the AC resistance			7
VI (a)	Zener breakdown and avalanche breakdown	4 4		8
VI(b)	Drift current is defined as the flow of electric current due to the motion of the charge carriers under the influence of an external electric field Diffusion current flows because of non uniform distribution of charge carriers			
VII(a)	Centertapped fullwave rectifier with fig	2 2 2 2		8
VII (b)	Ripple factor defined as the ratio of ac component of the output wave to the dc component in the wave. Rectification efficiency is defined as the ratio of DC output power to the input power from the ac supply			7
VIII (a)	A voltage doubler produces a d.c voltage almost twice the rms value of the input a.c voltage Fig	4 4		4 4
VIII(b)	To remove AC components or filter them out in a rectifier circuit,a filter circuit is used A filter circuit is in general a combination of inductor and capacitor called LC filter circuit Fig	2 2 2 1		7
IX (a)	BJT is a solid state device and the current flow in two terminals the emitter and collector and the amount of current controlled by the third terminal that is the base terminal Fig	5	5	4
IX (b)	Common emitter configuration of an NPN transistor is called a class A amplifier.In this the transistor base terminal is biased in such a way as to forward bias the Base emitter junction Fig	3 3	3 3	6
X (a)	**Current amplification factor α and β-** **α=β/β+1**			

	β=α/1-α			
		4	4	
X (b)	**Common base** **Common emitter** **Common collector**			7
		3	3	