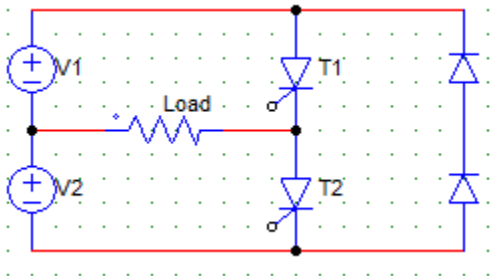


# NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : BE/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8553	Subject Name : Power Electronics	Rev. No.	02
Unit No : 4	Unit Name : Inverters	Date	30.09.2020

## OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ / True or False / Fill up with Choices )	BTL
1	Inverters converts a) dc power to dc power <b>b) dc power to ac power</b> c) ac power to ac power d) ac power to dc power	L1
2	Line-commutated inverters have a) AC on the supply side and DC on the load side <b>b) AC on both supply and load side</b> c) DC on both supply and load side d) DC on the supply side and AC on the load side	L1
3	VSI's using GTOs are turned off by a) load commutation b) line commutation <b>c) applying a negative gate pulse</b> d) removing the base signal	L2
4	_____ based inverters do not require self-commutation. a) IGBT b) GTO c) PMOSFET <b>d) SCR</b>	L2
5	Single phase half bridge inverters requires a) two wire ac supply b) two wire dc supply c) three wire ac supply <b>d) three wire dc supply</b>	L2
6	<p>What is the voltage across the R load when only T1 is conducting?</p>  <p>a) <math>V_s</math> <b>b) <math>V_s/2</math></b> c) <math>2V_s</math> d) zero</p>	L3
7	In a single-phase half wave inverter _____ SCR(s) are/is gated at a time. <b>a) one</b>	L2

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	b) two c) three d) none of the mentioned	
8	The output voltage from a single phase full wave bridge inverter varies from <b>a) <math>V_s</math> to <math>-V_s</math></b> b) $V_s$ to zero c) $V_s/2$ to zero d) $-V_s/2$ to $V_s/2$	L2
9	In a half wave circuit, forced commutation is essential when the a) load is inductive <b>b) load is resistive</b> c) source voltage is below 150 V d) none of the mentioned	L2
10	In a half wave bridge inverter circuit, the power delivered to the load by each source is given by a) $V_s \times I_s$ <b>b) <math>(V_s \times I_s)/2</math></b> c) $2(V_s \times I_s)$ d) None of the mentioned	L2
11	In VSI (voltage source inverters) a) both voltage and current depend on the load impedance b) only voltage depends on the load impedance <b>c) only current depends on the load impedance</b> d) none of the mentioned	L2
12	The total harmonic distortion (THD) is the measure of a) input vs output power factor b) temperature sensitivity <b>c) waveform distortion</b> d) contribution of each harmonic to the total output	L1
13	In voltage fed thyristor inverters _____ commutation is required. a) load <b>b) forced</b> c) self d) any commutation technique can be used	L1
14	Forced commutation requires a) a precharged inductor <b>b) a precharged capacitor</b> c) an overdamped RLC load d) a very high frequency ac source	L2
15	A three-phase bridge inverter requires minimum of _____ switching devices. a) 3	L1

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	<p>b) 4 c) 6 d) 8</p>	
16	<p>The below given inverter circuit is a ___ step inverter.</p> <p>a) 3 b) 2 c) 6 d) none of the mentioned</p>	L3
17	<p>In the three-phase bridge inverter, each step consists of</p> <p>a) 30° b) 60° c) 90° d) will depend on the value of the firing angle</p>	L2
18	<p>In inverters, to make the supply voltage constant</p> <p>a) an inductor is placed in series with the load b) capacitor is connected in parallel to the load side c) capacitor is connected in parallel to the supply side d) none of the mentioned</p>	L2
19	<p>In the 180° mode VSI, _____ devices conduct at a time.</p> <p>a) 5 b) 2 c) 3 d) 4</p>	L2
20	<p>What is the peak value of phase voltage in case of 3-phase VSI with 180° mode. The supply side consists of a constant dc voltage source of <math>V_s</math>.</p> <p>a) <math>V_s</math> b) <math>3V_s/2</math> c) <math>2V_s/3</math> d) <math>3V_s</math></p>	L2

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21	What is the maximum line voltage value in case of a three-phase VSI in 180° mode? a) 2Vs <b>b) Vs</b> c) 3Vs d) 2Vs/3	L2
22	The 120° mode of operation of a three phase bridge inverter requires _____ number of steps. a) 2 b) 4 <b>c) 6</b> d) 8	L2
23	If T1 is gated at 0°, T3 and T5 will start conducting at _____ and _____ respectively. a) 180°, 270° <b>b) 120°, 240°</b> c) 180°, 300° d) 240°, 360°	L2
24	The peak value of the line voltage in case of 120° mode of operation of a three-phase bridge inverter is a) Vs/2 b) 3Vs/2 c) Vs/√2 <b>d) Vs</b>	L2
25	The external control of ac output voltage can be achieved in an inverter by a) connecting a cyclo-converter <b>b) connecting an ac voltage controller between the output of the inverter and the load</b> c) connecting an ac voltage controller between the dc source and inverter d) connecting an ac voltage controller between the load and the dc source	L2
26	The series-inverter control method is a/an a) internal voltage control method b) external frequency control method <b>c) external voltage control method</b> d) none of the mentioned	L1
27	In the series-inverter control method a) two inverters are connected back-to-back b) the output from the inverter is taken serially <b>c) output voltages of two inverters are summed up with the help of a transformer</b> d) output voltages of two inverters are summed up with the help of a third inverter	L2
28	What is the peak value of phase voltage in case of 3-phase VSI with 180° mode. The supply side consists of a constant dc voltage source of Vs. a) Vs b) 3Vs/2	L2

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	c) 2Vs/3 d) 3Vs	
29	External control of dc input voltage can be obtained by the use of a a) transformer <b>b) chopper</b> c) inverter d) converter	L2
30	In the external control of dc input voltage a) a chopper is placed just after the inverter block b) a chopper is placed just after the filter block <b>c) a chopper is placed before the filter and the inverter block</b> d) none of the mentioned	L2
31	_____ method is an internal method for controlling the inverter output voltage. a) series connection of inverters b) chopper method c) commutating capacitor <b>d) pulse width modulation</b>	L2
32	In the PWM method a) external commutating capacitors are required b) more average output voltage can be obtained <b>c) lower order harmonics are minimized</b> d) higher order harmonics are minimized	L2
33	Which of the following is not a PWM technique? a) Single-pulse width modulation b) Multiple-pulse width modulation <b>c) Triangular-pulse width modulation</b> d) Sinusoidal-pulse width modulation	L2
34	In pulse width modulation a) the output voltage is modulated b) the input voltage is modulated <b>c) the gating pulses are modulated</b> d) none of the mentioned	L2
35	In the single-pulse width modulation method, the output voltage waveform is symmetrical about _____ a) $\pi$ b) $2\pi$ <b>c) <math>\pi/2</math></b> d) $\pi/4$	L2