GATE

EE1030

2013 - EE

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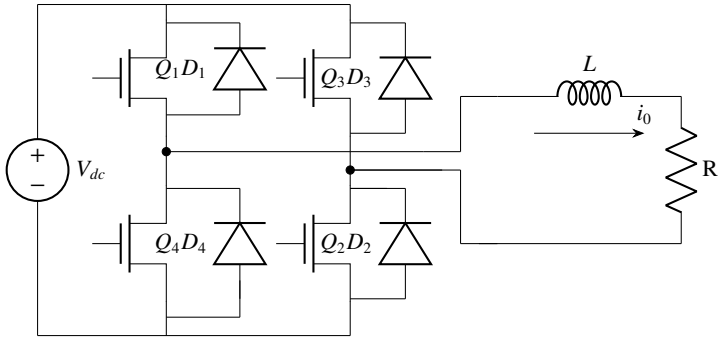
53) If the base impedance and the line-to-line base voltage are 100Ω and $100kV$, respectively, then the real power in MW delivered by the generator connected at the slack bus is [2013]

a) -10 b) 0 c) 10 d) 20

Statement for Linked Answer Question 54 and 55:
The Voltage Source Inverter (VSI) shown in the figure below is switched to provide a 50 Hz, square-wave ac output voltage (v_o) across an R-L load. Reference polarity of v_o and reference direction of the output current i_o are indicated i the figure. It is given that $R = 3\Omega$, $L = 9.55mH$.



54) In the interval when $v_o < 0$ and $i_o > 0$ the pair of devices which conducts the load current is [2013]

a) Q1, Q2 b) Q3, Q4 c) D1, D2 d) D3, D4

55) Appropriate transition i.e, Zero Voltage Switching (ZVS)/Zero Current Switching (ZCS) of the IGBTs during turn-on/turn-off is [2013]

a) ZVS during turn-off

b) ZVS during turn-on

c) ZCS during turn-off

d) ZCS during turn-on

General Aptitude (*GA*) Questions

56) They were requested not to quarrel with others.
Which of the following options is the closest in meaning to the world quarrel? [2013]

a) make out b) call out c) dig out d) fall out

57) In the summer of 2012, in New Delhi, the mean temperature of Monday to Wednesday was 41°*C*. If the temperature on Thursday was 15% higher than that of Monday, then the temperature in °*C* on Thursday was [2013]

a) 40 b) 43 c) 46 d) 49

58) Complete the sentence:
Dare _____ mistakes. [2013]

a) commit b) to commit c) committed d) committing

59) Choose the grammatically CORRECT sentence: [2013]
a) Two and two add four
b) Two and two become four
c) Two and two are four
d) Two and two make four

60) Statement: You can always give me a ring whenever you need.
Which one of the following is the best inference from the above statement? [2013]
a) Because I have a nice caller tune.
b) Because I have a better telephone facility.
c) Because a friend in need is a friend indeed.
d) Because you need not pay towards the telephone bills when you give me a ring.

61) What is the chance that a leap year, selected at random, will contain 53 Saturdays? [2013]

a) $\frac{2}{7}$ b) $\frac{3}{7}$ c) $\frac{1}{7}$ d) $\frac{5}{7}$

62) There were different streams of freedom movements in colonial India carried out by the moderates, liberals, radicals, socialists, and so on.
Which one of the following is the best inference from the above statement? [2013]
a) The emergence of nationalism in colonial India led to our Independence.
b) Nationalism in India emerged in the context of colonialism.
c) Nationalism in India is homogeneous.
d) Nationalism in India is heterogeneous.

63) The set of values of p for which the roots of the equation $3x^2 + 2x + p(p-1) = 0$ are of opposite sign is [2013]

a) $(-\infty, 0)$ b) $(0, 1)$ c) $(1, \infty)$ d) $(0, \infty)$

64) A car travels 8 km in the first quarter of an hour, 6 km in the second quarter and 16 km in the third quarter. The average speed of the car in km per hour over the entire journey is [2013]

a) 30 b) 36 c) 40 d) 24

65) Find the sum to n terms of the series $10 + 84 + 734 + \ldots$ [2013]

a) $\frac{9(9^n+1)}{10} + 1$ b) $\frac{9(9^n-1)}{8} + 1$ c) $\frac{9(9^n-1)}{8} + n$ d) $\frac{9(9^n-1)}{8} + n^2$