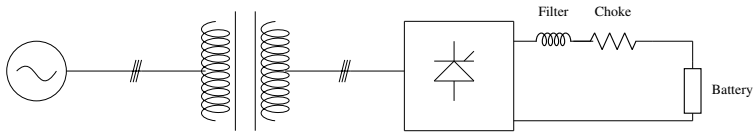


1) In the above system the three-phase fault  $MVA$  at the bus 3 is (2011-EE)

- a) 82.55  $MVA$  c) 170.91  $MVA$   
b) 85.11  $MVA$  d) 181.82  $MVA$

## Statement for Linked Answer Questions 2 and 3

A solar energy installation utilize a three-phase bridge converter to feed energy into power system through a transformer of 400V/400V as shown below. The energy is collected in a bank of 400V battery and is connected to converter through a large filter choke of resistance  $10\Omega$



2) The maximum current through the battery will be (2011-EE)

- a) 14A c) 80A  
b) 40A d) 94A

3) The  $kVA$  rating of the input transformer is (2011-EE)

- a) 53.2  $kVA$  c) 22.6  $kVA$   
b) 46.0  $kVA$  d) None

## General Aptitude (GA) Questions

4) Choose the most appropriate word from the options given below to complete the following sentence:

**Under ethical guidelines recently adopted by the Indian Medical Association, human genes are to be manipulated only to correct diseases for which \_\_\_\_\_ treatments are unsatisfactory.** (2011-EE)

- a) similar c) uncommon  
b) most d) available

5) The question below consists of a pair of related words followed by four pairs of words. Select the pair that best expresses the relation in the original pair:

**Gladiator : Arena** (2011-EE)

- a) dancer : stage  
b) commuter : train
- c) teacher : classroom  
d) lawyer : courtroom

- 6) There are two candidates  $P$  and  $Q$  in an election. During the campaign, 40% of the voters promised to vote for  $P$ , and rest for  $Q$ . However, on the day of election 15% of the voters went back on their promise to vote for  $P$  and instead voted for  $Q$ . 25% of the voters went back on their promise to vote for  $Q$  and instead voted for  $P$ . Suppose,  $P$  lost by 2 votes, then what was the total number of voters? (2011-EE)

- a) 100                      b) 110                      c) 90                      d) 95

- 7) **Choose the most appropriate word from the options given below to complete the following sentence:**

It was her view that the country's problems had been \_\_\_\_\_ by foreign technocrats, so that to invite them to come back would be counter-productive.

(2011-EE)

- a) identified                      c) exacerbated  
b) ascertained                      d) analysed

- 8) Choose the word from the options given below that is most nearly opposite in meaning to the given word:

**Frequency**

(2011-EE)

- a) periodicity                      c) gradualness  
b) rarity                      d) persistency

- 9) Three friends R, S and T shared from a bowl took  $\frac{1}{3}^{rd}$  of the toffees, but returned four to the bowl. S took  $\frac{1}{4}^{th}$  of what was left but returned three toffees to the bowl. T took half of the remainder but returned 2 back. If he had 17 toffees left, how many toffees were originally there in the bowl ? (2011-EE)

- a) 38                      b) 31                      c) 48                      d) 41

- 10) The fuel consumed by a motorcycle during a journey while travelling at various speeds is indicated in the graph below.

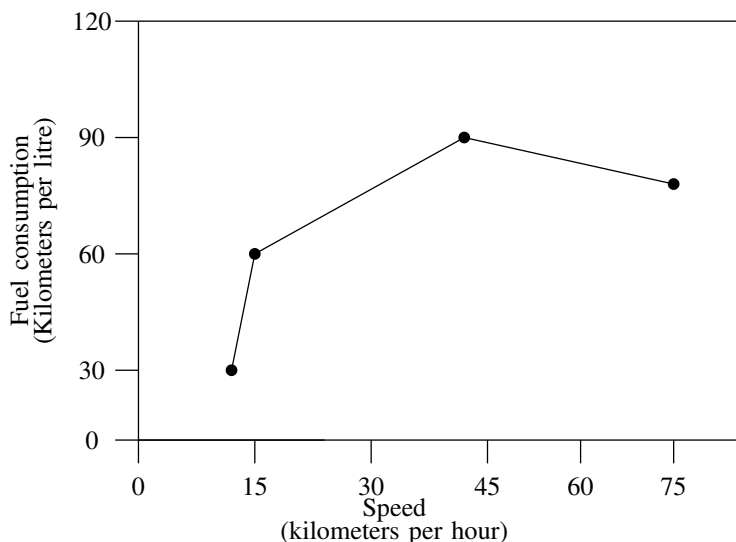


Fig. 10.1

The distances covered during four laps of the journey are listed in the table below.

LAP	Distance (kilometres)	Average Speed (kilometres per hour)
P	15	15
Q	75	45
R	40	75
S	10	10

From the given data, we can conclude that the fuel consumed per kilometre was least during the lap (2011-EE)

- a) P                      b) Q                      c) R                      d) S

- 11) The horse has played a little known but very important role in the field of medicine. Horses were injected with toxins of diseases until their blood built up immunities. Then a serum was made from their blood. Serums to fight with diphtheria and tetanus were developed this way. It can be inferred from the passage that horses were (2011-EE)

- a) given immunity to diseases  
 b) generally quite immune to diseases  
 c) given medicines to fight toxins  
 d) given diphtheria and tetanus serums

- 12) The sum of  $n$  terms of the series  $4 + 44 + 444 + \dots$  is (2011-EE)

a)  $\frac{4}{81} \left[ 10^{n+1} - 9n - 1 \right]$   
b)  $\frac{4}{81} \left[ 10^{n-1} - 9n - 1 \right]$

c)  $\frac{4}{81} \left[ 10^{n+1} - 9n - 10 \right]$   
d)  $\frac{4}{81} \left[ 10^n - 9n - 10 \right]$

13) Given that  $f(y) = \frac{|y|}{y}$  and  $q$  is any non-zero real number, the value of  $|f(q) - f(-q)|$  is  
(2011-EE)

a) 0

b) -1

c) 1

d) 2