BYJU'S EXAM PREP

# GATE 2019

## Electrical Engineering

## General Aptitude

## Question Paper & Solutions

**1.** It takes two hours for a person X to mow the lawn. Y can mow the same lawn in four hours. How long (in minutes) will it take X and Y, if they work together to mow the lawn?

A. 90 B. 60

C. 80 D. 120

**[2019 : 1 Mark]**

**Ans.** C

**Sol.** Work done X in 1 hour $= \frac{1}{2}$

Work done by Y in 1 hour $= \frac{1}{4}$

Work done by X and Y together in 1 hour

$= \frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

$\therefore$ Total time to complete mowing of lawn

$= \frac{4}{3}\text{hour} = \frac{4}{3} \times 60 = 80 \text{ min}$

**2.** Given two sets X = {1, 2, 3} and Y = {2, 3, 4} we construct a set Z of all possible fractions where the numerators belong to set X and the denominators belong to set Y. The product of elements having minimum and maximum values in the set Z is _____.

A. $\frac{1}{6}$ B. $\frac{1}{12}$

C. $\frac{3}{8}$ D. $\frac{1}{8}$

**[2019 : 2 Marks]**

**Ans.** C

**Sol.** X = {1, 2, 3}

Y = {2, 3, 4}

$Z = \left\{\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{2}{3}, \frac{2}{4}, \frac{3}{2}, \frac{3}{4}\right\}$

Minimum value in {Z} = $\frac{1}{4}$

Maximum value in {Z} = $\frac{3}{2}$

Product = $\frac{1}{4} \times \frac{3}{2} = \frac{3}{8}$

**3.** How many integers are there between 100 and 1000 all of whose digits are even?

A. 90 B. 60

C. 100 D. 80

**[2019 : 2 Marks]**

**Ans.** C

**Sol.** All number between 100 and 1000 can be 3 digit number only

For units and tens digits = 5 integers can be filled

(0, 2, 4, 6, 8)

For hundreds digit = 0 can't be filled only 4 digits can be filled (2, 4, 6, 8)

$\therefore$ Total choices = 4 × 5 × 5 = 100 numbers

**4.** The ratio of the number of boys and girls who participated in an examination is 4 : 3. The total percentage of candidates who passed the examination is 80 and the percentage of girls who passed is 90. The percentage of boys who passed is _____.

A. 72.50 B. 90.00

C. 80.50 D. 55.50

**[2019 : 2 Marks]**

**Ans.** A

**Sol.** Let, Number of boys = 4x and Number of girls = 3x

Total passed candidates

$$= \frac{80}{100} \times 7x = \frac{28}{5}x$$

Number of girls candidates who passed

$$= \frac{90}{100} \times 3x = \frac{27}{10}x$$

Now total number of candidates passed = Number of girls who passed + Number of boys who passed

$\Rightarrow$ Number of boys who passed

$$= \left(\frac{28}{5} - \frac{27}{10}\right)x = \frac{56-27}{10}x = \frac{29}{10}x$$

$$\% \text{ of boys } = \frac{29}{10 \times 4x} \times 100 = 72.5\%$$

Option (A) is correct.

**5.** The missing number in the given sequence 343, 1331, _____, 4913 is

A. 4096 B. 2744

C. 3375 D. 2197

**[2019 : 1 Mark]**

**Ans.** D

**Sol.** $7^3$, $11^3$, _____, $17^3$

∵ 7, 11, 13 and 17 are all prime numbers.

The series is cube of these numbers.

**6.** Consider five people- Mita, Ganga, Rekha, Lakshmi and Sana. Ganga is taller than both Rekha and Lakshmi. Lakshmi is taller than Sana. Mita is taller than Ganga. Which of the following conclusions are true?

1. Lakshmi is taller than Rekha
2. Rekha is shorter than Mita
3. Rekha is taller than Sana
4. Sana is shorter than Ganga

A. 1 and 3 B. 3 only

C. 1 only D. 2 and 4

**[2019 : 2 Marks]**

**Ans.** D

**Sol.** If '>' Implies taller then

1. Ganga > Rekha, Ganga, > Lakshmi
2. Lakshmi, Sana
3. Mita > Ganga

⇒ Mita > Ganga > Lakshmi > Sana

⇒ Mita > Ganga > Rekha

Statement 2 & statement 4 is correct.

**7.** Newspapers are a constant source of delight and recreation for me. The _____ trouble is that I read _____ many of them.

A. even, too B. even, quite

C. only, quite D. only, too

**[2019 : 1 Mark]**

**Ans.** D

**Sol.** In the first blank we need an adjective to qualify the noun "trouble" and in the second we need an adverb to modify the adjective "many". Also, the sentence implies a sense of "in spite of". Analysing these, only and too seem to be perfect.

Hence, option D is the correct answer.

**8.** The passengers were angry _____ the airline staff about the delay.

A. towards B. on

C. with D. about

**[2019 : 1 Mark]**

**Ans.** C

**Sol.** With adjective 'angry' we always use the preposition 'with'. Thus, the correct sentence is "The passengers were angry with the airline staff about the delay". Hence, option C is the correct.

**9.** I am not sure if the bus that has been booked will be able to _____ of the students.

A. sit B. deteriorate

C. accommodate D. fill

**[2019 : 1 Mark]**

**Ans.** C

**Sol.** **For option A:**

'sit' is inappropriate as bus is not sitting the students and this is different from saying if the bus will have enough seats for all the students.

**For option B:**

'deteriorate' means becoming progressively worse and is clearly unsuitable here.

**For option C:**

'accommodate' means to provide sufficient space and is the apt word here.

**For option D:**

'fill' is also inappropriate here as the bus is not filling the students but rather students are filling the bus.

**10.** An award-winning study by a group of researchers suggests that men are as prone to buying on impulse as women, but women feel more guilty about shopping. Which of the following statements can be inferred from the given text?

A. Many men and women indulge in buying on impulse.

B. Few men and women indulge in buying on impulse.

C. All men and women indulge in buying on impulse.

D. Some men and women indulge in buying on impulse.

**[2019 : 2 Marks]**

**Ans.** D

**Sol.** "men are as prone to buying on impulse as women". This means there are "Some men" and "some women" who buy on impulse.

"Few" means almost none and "prone to buying" means the number is not so insignificant.

"many" can be ambiguous correct answer but still option D is a safer option.