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ST. LAWRENCE HIGH SCHOOL

Third Term Exam – 2019

Sub: Arithmetic | **Class: 7** | **F. M. : 90**

Duration: 2hrs. 30 min. | **Model Answers.** | **Date: 22.11.2019**

Group – A

1. Choose the correct option for the following questions. **5x1=5**

i) 0.05x5-0.005x5=
b) 0.225

ii) Which of the following is odd one out?
c) (-5)x(-1)

Iii) If CP is 80% of its SP, then profit percent is : d) 25%

iv) $(-1)^{235} \times (-4)^{11} \times (-10)^{9}$ results in a :
a) Negative number

v) 60 square tiles of equal size were needed to cover a floor area of 135 sqm.The length of each tile is: b) 150cm.

2. Fill in the blanks: **5x1=5**

i) A pie is also known as a circle graph.
ii) $87 \times 19 = 19 \times (80 + 7)$
iii) 25% of 52 = 13
iv) Which ratio is smaller7:10 or 2:5 ? 2:5
v) $-1037 + (-963) = -2000$

3. Write 'True' or 'False'.(Don't write 'T' or 'F'). **5x1=5**

i) The simplest form of the ratio 380:570 is 2:19. (False)
ii) {0} is a null set. (False)
iii) The fraction whose numerator is less than the denominator is called a proper fraction.(True)
iv) $-37 - (-15) - 2 = -54$.(False)
v) For a fixed work, the number of worker needed and the days required are related in an inverse variation relation.(True)

4. Answer in one word: **5x1=5**

i) What is the cost of 30 books if the cost of 16 books is Rs 72 ? Ans-Rs135
ii) What is the value of $6 - 6 \div 6 \times 6$? Ans-0
iii) The sets A={1,3,4,} and B={2,4,6} are what type of sets? Ans- Equivalent set.
iv) What is the value of x if $50 : x = 35 : 7$? Ans-x=10
v) What is the single exponent of $(3^3)^7 x (3^6)^2$? Ans-3^{33}

5. Match the following columns.

5x1=5

Side – A		Side – B	
i)	{ 0,3,6,9,12,15} (e)	a)	A={ odd number}
ii)	{1,3,5,7,9,11} (a)	b)	B={mountains}
iii)	{ pine, oak, deodar} (d)	c)	C= { fractional numbers}
iv)	{Himalayas, Alps, Andes} (b)	d)	D={trees}
v)	{ 1/3, 1/5, 1/9, ¼ } (c)	e)	E={ multiplies of 3}

Group - B

(V) Answer the following questions:- (2 X 5 = 10)

1. The melting point og hydrogen is - 259°C. The melting point of oxygen is - 219°C. Whose melting point is greater and by how much.

Ans-Oxygen by 40 degree centigrade.

2. Add : 859.6 , 0.007 , 4.02 , 3.567

Ans-867.194

3. Multiply : $\frac{-8}{57} \times \frac{19}{-32}$

Ans-1/12

4. Write the following set in Roster form : The set of factors of 24.

Ans-{1,2,3,4,6,8,12,24}

5. A bus travels from New Delhi to Jaipur at a speed of 60 Km/hr for 4 hrs and 48 mins. How far is New Delhi from Jaipur.

Ans-Distance= Speed xTime. Therefore Distance=60x4.8=288km.

(VI) Answer the following questions:- (**Any FIVE**) (3 X 5 = 15)

1. Simplify: $(2^{-1} \div 5^{-1})^2 \times (\frac{-5}{8})^{-2}$

Ans-16

2. Find the smallest number by which 1323 must be multiplied so that the product is a perfect cube.

Ans-1323=3x3x3x7x7. Therefore 7 must be multiplied so that the product is a perfect cube.

3. The length of the three ribbons is in the ratio of 4 : 3 : 5. If the length of the shortest ribbon is 12 cm, find the length of the longest ribbon.

Ans-3x/12=12 or x=48. Therefore length of longest ribbon is 5x/12=20 cm.

4. 28 pumps can empty a reservoir in 18 hrs. In how many hours can 42 such pumps do the same work.

Ans-42 pumps can do the work in (18x28)/42=12hrs.

5. An alloy of tin and copper consists of 20 parts of tin and 120 parts of copper. What is the percentage of copper in the alloy.

Ans- % of copper=(120/140)x100=85.7%

6. Three cubes each of side 4 cm are placed together. Find the volume and surface area of the cuboid thus formed.

Ans- L=4x3=12, B=4, and H=4. Therefore, V= 12x4x4=192cc

SA=2(LXB+LXH+BXH)=2(48+16+48)=224cm^2.

7. The average of 10 observations is 3.5. If two observations namely 3.5 and 2.5 are deleted find the new average.

Ans-Total of 10 observation=3.5x10=35

Total of 8 observation=35-3.5-2.5=29. Therefore 29/8=3.625

Group - C

8. Long answer type questions: **5x8=40**

i) Ajay buys a used watch for Rs 725 and spends Rs 75 on its repairs. If he sells the same for Rs 840, find his profit per cent.

Ans-Total CP=725+75=800 and SP=840. Therefore profit %=(40/800)x100=5%

ii) A fort had provisions for 150 men for 55 days. After 15 days, 25 men left the fort. How long will the food last at the same rate?

Ans- For 150 men food for 40 days. Therefore for 125 men food for (40x150)/125=48 days.

Or

A and B together can do a piece of work in 5 days, but A alone can do it in 10 days. How many days would B alone take to do the same work?

Ans-A+B can do 1/5 of work. A can do1/10 of the work in 1 day. Therefore B can do(1/5-1/10)=1/10 of the work in 1day. Hence B can do the work in 10 days.

iii) Given a sum of money is shared in the ratio 4:3:2. The smallest share is Rs 240. What is the whole sum of money and the largest share?

Ans- Let the sum of money be Rs x. Therefore smallest share=2/9 of x. B.T.P. 2/9of x=240 or x=1080. Hence largest share=4/9x1080=Rs 480.

iv) Divide 9.828 by 4.2 Ans- 2.34

v)Find the smallest number by which 1200 must be divided to make it a perfect square. Find the perfect vsquare number and also its square root.

Ans- 1200=2x2x2x2x5x5x3. So to make it a perfect square we divide it by 3. Hence the number is 1200/3=400 and the square root is 20.

vi) The area of a rectangular field is 1120m^2. It's length is 40m. Find the cost of fencing the boundary of the field of rate of Rs 3.20 per meter.

Ans- Breath=1120/40=28m. Therefore perimeter=2(40+28)=136m. Hence cost of fencing=136x3.20= Rs 435.20

vii) A beam 11m long, 40 cm wide and 30 cm deep is made of wood which weighs 25kg per m^3. Find the weight of the beam?

Ans- Volume =11x0.4x0.3=1.32cu m. Therefore weight of the beam=1.32x25=33kg.

viii) The heights in cm of 45 boys are given below. Find the mean height.

Height	155	156	157	158	159
Frequency	4	15	8	6	12

Ans- Mean = (155x4+156x15+157x8+158x6+159x12)/ (4+15+8+6+12) =7072/45= 157.15

The following table shows the number of books of different subjects in a library.

Subject	Physics	Chemistry	Biology	Maths	English
No. of books	50	75	25	90	125

Draw a bar graph to represent the above data.

Ans – Students will draw the bar diagram on the graph paper.