

## **Mathematics**

Given numbers are in which series.

 $\frac{2}{3}$ , 1,  $\frac{4}{3}$ ,  $\frac{5}{3}$ , 2,  $\frac{7}{3}$ 

(a) AP

(b) GP

(c) HP

(d) A & C both

**27.** For what value of k the numbers 2, 3 + k, 2 are in arithmetic progression-

(a) 1

(b) 0

(c) -1

(d) 2

**28.** Find the CI after 2 year on the sum of Rs 1200 at rate of 20% annual.

(a) 528

(b) 524

(c)428

(d) 480

**29.** If principal of Rs. 420 is given on lent at the rate of 10% for 2 year find the interest earned?

(a) 74

(b) 84

(c)82

(d) 88

**30.** If the difference between CI and SI of 2 year is Rs 216. Find the principal amount if rate of interest is 10%

(a) 10800

(b) 21600

(c)5400

(d) None

**31.** If the ratio of Ram and Shyam's age is 4:5. After 6 years ratio of their ages will be 7:8. Find the present age of Shyam.

(a) 8

(b) 10

(c) 14

(d) 16

**32.** Find the value of  $\frac{\sin 16^{\circ}}{\cos 74^{\circ}} = ?$ 

(a) 0

(c)  $\sqrt{2} + \frac{1}{\sqrt{2}}$ 

(d) 1

If the two chords AB and CD of a circle cuts at point 'E' and make right angle with each other. If length of AE = 4, EB = 2 and ED = 2. Find the radius of the circle?

(a) 3

(b)  $\frac{1}{\sqrt{10}}$ 

(c)  $\sqrt{10}$ 

(d)  $5\sqrt{2}$ 

34. A sphere with radius 12 cm is melted into 27 smaller spheres with equal radius. Find the radius of smaller spheres.

(a) 3 cm

(b) 4 cm

(c) 2 cm

(d) 2.5 cm

**35.** A sphere with radius 18 cm is melt and recast into a cylinder with radius 9 cm. Find the height of the cylinder.

(a) 196 cm

(b) 80 cm

(c) 72 cm

(d) 96 cm

**36.** Find the total surface area (in cm<sup>2</sup>) of a hemisphere having radius 21 cm.

(a) 5188

(b) 4158

(c) 5940

(d) 7722

The average of 11 numbers is 40. If the average of first six numbers is 36, and that of last six numbers is 42, then find the middle number.

(a) 28

(b) 32

(c) 22

(d) 43

**38.** A and B can together complete a work in 10 days, B and C can together complete the work in 12 days while A and C together, takes 15 days to complete the same work. Find the number of days required by C to complete the work alone.

(a) 18 days

(b) 40 days

(c) 22 days

(d) 32 days



## RRB ALP STAGE-II PART A

**Memory Based Package** Based on Papers of 21st January 2019

1 Mock

Bilingual @49

**39.** In a triangle ABC, a line PQ is drawn parallel to BC which cuts AB at P and AC at Q and angle AQP and ABC are equal. If AP = 2 cm and AC = 4 cm, find ratio of perimeter of  $\triangle$ APQ to  $\triangle$ ABC.

(a) 1:4

(b) 1:2

(c) 3:8

(d) 2:7

- 40. If the side of triangle are 13, 14, 15 cm then triangle is
  - (a) Acute angled triangle
  - (b) obtuse angled triangle

- (c) right angled triangle
- (d) both A & C
- **41.** If one right angled side of right-angle triangle is 6 cm. and hypotenuse is 2 cm more than another right-angled side. Find the length of another right-angled side?
  - (a) 6 cm
- (b) 8 cm
- (c) 10 cm
- (d) 12 cm
- **42.** Simplify =  $\frac{28 \times 812 \div 29 + 28}{812 \div 28 1}$ 
  - (a) 812

(b) 28

(c) 29

- (d) None
- **43.** Marked price of a item is 1200 Rs. After giving 10% discount, shopkeeper gain 20%. Find cost price?
  - (a) 1000
- (b) 1180
- (c) 900
- (d) 920
- **44.** Value of  $47 [19 + {37 (27 7)}]$ 
  - (a) 10

(b) 9

(c)8

- (d) 11
- **45.** If length of a train is 400 meter it crosses a boy who is standing on a platform in 16 second. Find the speed of train (in km/hr)
  - (a) 45

- (b) 90
- (c) 180

- (d) 135
- **46.** If  $66\frac{2}{3}$ % of A is equal to  $16\frac{2}{3}$ % of B. Value of B is 1800 more than A. Find value of A

(a) 500

- (b) 600
- (c) 1200
- (d) 900
- **47.** A pipe can fill a tank in 8 hrs. There is a leakage in the bottom of tank due to which the tank was filled in 12 hrs. Find the time required by leakage to empty the completely filled tank.
  - (a) 18 hrs
- (b) 22 hrs
- (c) 20.5 hrs
- (d) 24 hrs
- **48.** The arithmetic mean of the length of 100 equivalent cars is d metres. Then, which of the following is the total length (in metes) of all the cars in term of d?
  - (a) d + 100
- (b) 100 -d

 $(c)\frac{d}{100}$ 

- (d) 100d
- **49.** Find mode of  $\frac{1}{4}$ ,  $\frac{2}{3}$ ,  $\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{2}{3}$ ,  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{1}{8}$ ,  $\frac{1}{2}$ 
  - (a)  $\frac{1}{4}$

(b)  $\frac{1}{8}$ 

(c)  $\frac{2}{3}$ 

- (d)  $\frac{1}{2}$
- **50.** The heights of Aman's family members are given in cms as

165, 180, 181, 163, 172, 180, 162

The median height of the family will be

- (a) 180
- (b) 170
- (c) 131
- (d) 172