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**(Papers) RRB Group D : Exam Paper & Answer Key**

**Date: 18 Sep 2018 Shift-2 (Mathematics)**

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**Q1. The sum of two fractions is  $\frac{7}{4}$ , One of them is  $\frac{5}{3}$ , What is the other function?**

- a.  $\frac{1}{12}$
- b.  $\frac{1}{5}$
- c.  $\frac{1}{10}$
- d. 2

**Q2. Sita bought certain number of pens at 8 for Rs.7 and sold them at 6 for Rs. 5. The gain or loss percentage is?**

- a. No profit no loss
- b.  $100/21\%$  loss
- c.  $99/21\%$  loss
- d.  $100/21\%$  profit

**Q3.  $\{8+(24+3)\}/9=?$**

- a. 3
- b. 9
- c. 8
- d. 4

**Q4. On a certain sum, simple interest for  $5\frac{1}{2}$  years at an annual rate of 12% is Rs. 50 less than the interest on the same sum for  $7\frac{1}{2}$  years at an annual rate rate of 10%. Find the sum.**

- a. Rs.1500
- b. Rs.1000
- c. Rs.2000
- d. Rs.1200

**Q5. Find the values of k for which  $x^2+5kx+k^2+5$  is exactly divisible by  $x+2$  but not divisible by  $x+3$ .**

- a. Neither 1 nor 9
- b. 1
- c. Both 1 and 9
- d. 9

**Q6. From the top of a platform 7m high, the angle of elevation of a tower was  $30^\circ$ . If the tower was 47 m high, how far away from the tower was the platform was the platform positioned?**

- a.  $45\sqrt{3}$ m
- b. 40m
- c.  $40\sqrt{3}$ m
- d.  $15\sqrt{3}$ m

**Q7. A tap can fill the tank in 25 minutes and the other can empty the tank in 50 minutes. If both the taps are opened simultaneously, then the tank will be filled in time?**

- a. 50 minutes
- b. 1 hour, 10 minutes
- c. 1 hour, 5 minutes
- d. 55 minutes

**Q8. If the cost of tomatoes increases by 25% per kg and Sudha wants to spend only 15% more on the tomatoes.**

**Calculate the percentage decrease in the quantity of tomatoes that Sudha gets.**

- a. 12.5%
- b. 12%
- c. 8%
- d. 10%

**Q9. On selling a jute bag for Rs. 48, Ashmitha incurs a loss of 20%. In order to make a profit of 20% what should be the selling price of the jute bag?**

- a. 56
- b. 72
- c. 52
- d. 68

**Q10. If  $\sqrt{108} + \sqrt{243} = 25.98$  find the value of  $\sqrt{147} + \sqrt{192}$ .**

- a. 25.98
- b. 34.248
- c. 27.712
- d. 26.89

**Q11. Vella is a farmer he owns few acres of land. Last month he had a good harvest which gave him a 90% profit on his initial investment. Approximately how much money he needs to invest each season?**

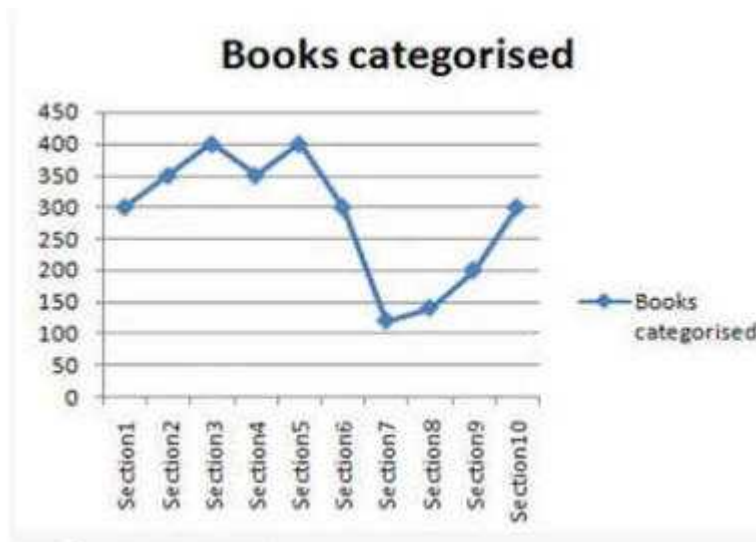
- a. 3,00,000
- b. 1,50,000
- c. 1,00,000
- d. 6,00,000

**Q12. Keerthi and Malathi together can complete a task in 12 days, while Malathi can finish it in 30 days. In how many days can Keerthi alone complete the task?**

- a. 10 Days
- b. 40 Days

- c. 20 Days
- d. 30 Days

**Q13. In a library, there are 10 different sections and the librarian categorises the book over 20 days. Which section has the least number of books?**



- a. Section 7
- b. Section 5
- c. Section 8
- d. Section 9

**Q14. The square root of  $882/1922$  is:**

- a.  $22/31$
- b.  $21/31$
- c.  $19/31$
- d.  $20/31$

**Q15. An inlet pipe and an outlet pipe are taking turns to fill and drain a cistern, respectively, for an hour each at a time, starting with the inlet pipe when the cistern is empty. It takes the inlet pipe 15 hours to fully fill the empty cistern, whereas the outlet pipe can drain the filled cistern**

completely in 21 hours. How many hours will it take for the cistern to be full?

- a. 99
- b. 52.5
- c. 100
- d. 105

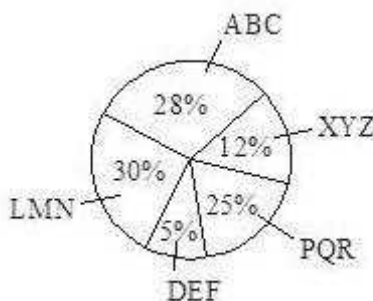
**Q16.** There is a maximum gap of  $x$  years between two successive leap years. What is the value of  $x$ ?

- a. 4
- b. 1
- c. 8
- d. 2

**Q17.** The H.C.F. of two numbers is 8. Which one of the following can never be their L.C.M.?

- a. 24
- b. 48
- c. 56
- d. 60

**Q18.** The given pie chart shows information about the mobile phone manufacturing companies in India. The total number of mobile phone units manufactured is 12,40,000. Which company produces the least number of mobile phones?



- a. DEF
- b. PQR
- c. XYZ
- d. ABX

**Q19. What is the quantity of copper in 1kg of alloy if the alloy contains 32% copper, 40% zinc and the rest is nickel?**

- a. 320 g
- b. 280 g
- c. 400 g
- d. 240 g

**Q20. A 161.5 m long train crosses a 758.5 m long bridge in 46 seconds. What is the speed of the train?**

- a. 72 km/h
- b. 78 km/h
- c. 75 km/h
- d. 80 km/h

**Q21. What is the greatest four-digit number that is exactly divisible by 49?**

- a. 9998
- b. 9994
- c. 9996
- d. 9992

**Q22. By walking at  $\frac{4}{5}$  of his usual speed, Soham is 6 minutes late to office. How much time does he usually take to get to the office?**

- a. 25 minutes
- b. 20 minutes
- c. 24 minutes
- d. 16 minutes

**Q23. The wickets taken by a bowler in 12 cricket matches are as follows:**

**2,6,4,3,5,0,3,2,1,3,2,3. Find the mode of the data**

- a. 1
- b. 4
- c. 2
- d. 3

**Q24. The area of the circumcircle of a right angle triangle whose sides are 6cm, 8cm and 10cm will be:**

- a.  $16\pi \text{ cm}^2$
- b.  $9\pi \text{ cm}^2$
- c.  $25\pi \text{ cm}^2$
- d.  $24.5\pi \text{ cm}^2$

Q25.  $\sqrt{0.00069169} = ?$

- a. 0.00243
- b. 0.243
- c. 0.0263
- d. 0.000243

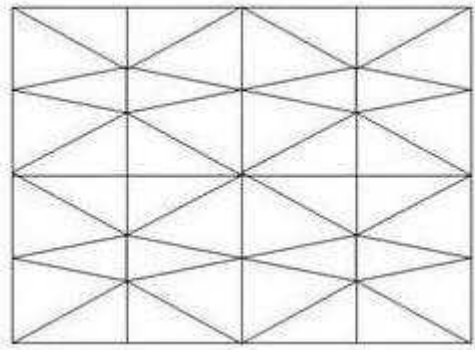
**Q26. How many factors of 1296 are perfect squares?**

- a. 12
- b. 8
- c. 9
- d. 10

**Q27. If the radius of curvature of a concave mirror is 6.2 cm, its focal length is \_\_\_\_\_ cm.**

- a. 2.6
- b. 3.1
- c. 6
- d. 12.4

**Q28. How many right-angled triangles are there in the following figure?**



- a. 14
- b. 15
- c. 12
- d. 16

**ANSWER:**

1. (a), 2. (b), 3. (a), 4. (b), 5. (d), 6. (c), 7. (a), 8. (c), 9. (b), 10. (a), 11. (c), 12. (c), 13. (a), 14. (b), 15. (a), 16. (c), 17. (d), 18. (a), 19. (a), 20. (a), 21. (c) 22. (c) 23. (d), 24. (c), 25. (c), 26. (c), 27. (b), 28. (d)