

# SSC SELECTION POST PHASE IX



## Higher Secondary Level Tier-1 Compilation



All 7 Shifts (2 Feb 2022 to 16 March 2022)

Quantitative Aptitude (in English)

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By Shubham Sir



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- 2) SSC CHSL 2020 Tier-1 question papers
- 3) SSC MTS 2020 Tier-1 question papers
- 4) SSC Stenographer 2020 Question papers
- 5) DSSSB junior clerk question papers
- 6) SSC CGL 2019 Tier-2 question papers
- 7) SSC CPO 2018, 2019 , 2020 Tier-2 Question papers
- 8) SSC GD 2021 all 63 shifts compilation
- 9) RRB NPTC subject-wise compilations

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- 4) SSC Stenographer 2019 question papers
- 5) RRB NTPC Latest Question papers (132 + shifts compilation)**
- 6) SSC Selection post phase vii and phase viii question papers.
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SSC CGL Job Description  
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# Index-Higher Secondary Level

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## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

08/02/2022-> (12:00 PM - 1:00 PM)

### Quantitative Aptitude

Q.1)-

The value of  $\frac{0.49-0.7 \times 0.8+0.64}{0.512+0.343}$  is:

1.  $\frac{13}{3}$     2.  $\frac{25}{3}$     3.  $\frac{10}{3}$     4.  $\frac{2}{3}$

Q.2)-

A text book is marked at ₹480 and is sold for ₹420. What is the percentage of discount?

1. 11.7%    2. 13.2%    3. 12.5%    4. 10.5%

Q.3)-

When an article is sold for ₹474, there is a loss of 21%. The cost price of the article (in ₹) is:

1. 600    2. 625    3. 675    4. 750

Q.4)-

The average weight of P, Q and R is 47 kg. If the average weight of Q and R is 50 kg and that of R and P is 49 kg, then the average weight (in kg) of P and Q is:

1. 40    2. 43    3. 42    4. 49

Q.5)-

Two numbers are 30% and 50%, respectively, more than a third number. The ratio of the second number to the first number is:

1. 11 : 15    2. 15 : 13    3. 11 : 13    4. 7 : 15

Q.6)-

A can complete a work in 18 days. If B is only 90% efficient as compared to A, then in how many days will B alone complete the same work?

1. 21    2. 20    3. 17    4. 19

**Q.7)-**

The average of 33 numbers is 70. The average of the first 17 numbers is 65 and the average of the last 17 numbers is 74. If the 17<sup>th</sup> number is excluded, what is the average of the remaining numbers (approximate to one decimal place)?

1. 69.5    2. 72.5    3. 67.5    4. 70.5

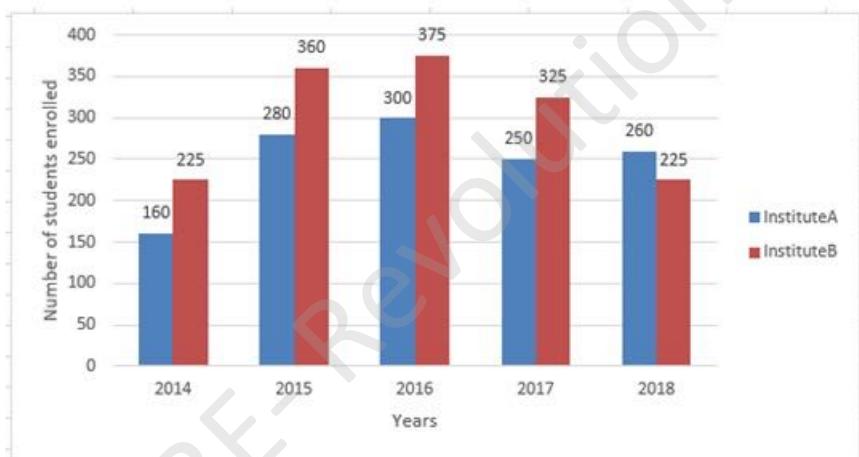
**Q.8)-**

A can finish a work in 33 days and B can finish the same work in one-third the time taken by A. Working together, what part of the same work can they finish in 5 days?

1.  $\frac{25}{33}$     2.  $\frac{14}{33}$     3.  $\frac{20}{33}$     4.  $\frac{24}{7}$

**Q.9)-**

The given bar graph shows the number of students enrolled in institutes A and B during 5 years (2014 to 2018). Study the bar graph and answer the question that follows.



What is the difference between the average number of students enrolled in institute B during the five years and the average number of students enrolled in institute A during the five years?

1. 52    2. 30    3. 50    4. 49

**Q.10)-**

If the radius of a sphere is increased by 11%, then what is the percentage (correct to two decimal places) increase in its volume?

1. 30.98%    2. 36.76%    3. 33.65%    4. 39.85%

**Q.11)-**

The ratio of the distance between two places A and B to the distance between places B and C is 3 : 5. A man travels from A to B at 30 km/h and from B to C at x km/h. If his average speed for the entire journey is 40 km/h, then what is the value of (x - 7) (in km/h)?

1. 43    2. 49    3. 51    4. 47

**Q.12)-**

In  $\triangle ABC$ , AB and AC are produced to points D and E, respectively. If the bisectors of  $\angle CBD$  and  $\angle BCE$  meet at point O, so that  $\angle BOC = 76^\circ$ , then find the measure of  $\angle A$ .

1.  $28^\circ$     2.  $42^\circ$     3.  $14^\circ$     4.  $104^\circ$

**Q.13)-**

The area of a circle is  $38.5\text{cm}^2$ . Find its circumference (in cm).

$(\text{Use } \pi = \frac{22}{7})$

1. 77    2. 118    3. 22    4. 11

**Q.14)-**

If  $x - y + z = 0$ , then what is the value of  $(x^2 + yz) \div (x^2 + y^2 + z^2)$ ?

1. 1    2.  $\frac{1}{2}$     3. -1    4.  $-\frac{1}{2}$

**Q.15)-**

If  $\cos^2\theta - \sin^2\theta - 3\cos\theta + 2 = 0$ ,  $0^\circ < \theta < 90^\circ$ , then what is the value of  $5\cos\theta - \frac{\tan\theta}{2}$ ?

1.  $\frac{3-\sqrt{3}}{2}$     2.  $\frac{3+\sqrt{3}}{2}$     3.  $\frac{5-\sqrt{3}}{2}$     4.  $\frac{5+\sqrt{3}}{2}$

**Q.16)-**

By reducing the selling price of an article by ₹900, a profit of 25% turns into a loss of 5%. The original selling price of the article (in ₹) is:

1. 3,950    2. 3,550    3. 3,750    4. 3,250

**Q.17)-**

The simple interest on a certain sum is 50% of the sum in 8 years at a certain rate per cent p.a. What will be the interest (in ₹) on a sum of ₹7,200 at the same rate in  $5\frac{2}{3}$  years at simple interest?

1. 1,875    2. 2,550    3. 1,260    4. 1,950

**Q.18)-**

A invested 30% more than B. B invested 40% less than C, who invested ₹8,000. The total amount invested (in ₹) by all of them together is:

1. 19,040    2. 10,490    3. 14,900    4. 10,049

**Q.19)-**

Let  $\Delta ABC \sim \Delta PQR$  and  $\frac{\text{ar}(\Delta ABC)}{\text{ar}(\Delta PQR)} = \frac{25}{169}$ . If  $AB = 15$  cm,  $BC = 7$  cm and  $AC = 8$  cm, then  $PQ$  (in cm) is equal to:

1. 21    2. 39    3. 26    4. 52

**Q.20)-**

A number is decreased by 30%, then increased by 27% and then further increased by 20%. What is the net increase/decrease percentage in the number (correct to the nearest integer)?

1. 4% increase    2. 5% decrease    3. 3% decrease    4. 7% increase

**Q.21)-**

Study the given table and answer the question that follows.

The table shows the production of different types of cars A, B, C, D and E (in thousands) from 2012 to 2016.

Cars	Years				
	2012	2013	2014	2015	2016
A	46	53	56	58	67
B	50	65	67	66	72
C	43	54	55	47	51
D	47	52	61	65	74
E	48	58	63	64	67

What is the ratio of the total production of type A cars in 2014 and type E cars in 2015 to the total production of type C and D cars in 2012?

1. 4 : 3    2. 5 : 6    3. 11 : 12    4. 9 : 11

**Q.22)-**

If the five-digit number 235xy is divisible by 3, 7 and 11, then what is the value of  $(x - y)$ ?

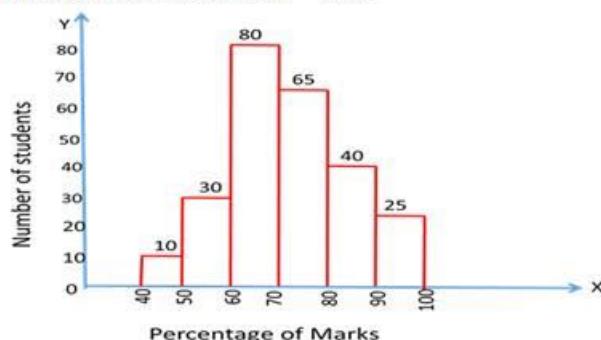
1. 6    2. 4    3. 2    4. 5

**Q.23)-**

Study the given histogram and answer the question that follows.

The histogram represents the percentage of marks scored by a number of students in the class X Board Examination in 2018 in a school.

Total number of students = 250.



The number of students who have secured less than 60% of marks is approximately what percentage more than number of students who have secured 90% marks and above?

1. 60%    2. 75%    3. 40%    4. 50%

**Q.24)-**

A train covers a distance of 225 km in 2.5 hours at a uniform speed. Find the time (in hours) the train will take to cover a distance of 810 km at the same speed.

1. 7    2. 9    3. 15    4. 10

**Q.25)-**

If  $8A5146B$  is divisible by 88, then what is the value of  $A^B$  ?

1. 64    2. 121    3. 81    4. 90

---

### Answer key

Q.1	4	Q.2	3	Q.3	1	Q.4	3	Q.5	2
Q.6	2	Q.7	4	Q.8	3	Q.9	1	Q.10	2
Q.11	1	Q.12	1	Q.13	3	Q.14	2	Q.15	3
Q.16	3	Q.17	2	Q.18	1	Q.19	2	Q.20	4
Q.21	1	Q.22	2	Q.23	1	Q.24	2	Q.25	3



## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

09/02/2022-> (12:00 PM - 1:00 PM)

### Quantitative Aptitude

Q.1)-

A sum of ₹46,800 is divided among A, B, C and D such that the ratio of the combined share of A and D to the combined share of B and C is 8 : 5. The ratio of the shares of B and C is 5 : 4. If A receives ₹18,400, then the sum of the shares of A and B (in ₹) is:

- 1. 18,400
- 2. 18,000
- 3. 28,400
- 4. 28,800

Q.2)-

In a triangle PQR, length of the side QR is less than twice the length of the side PQ by 3 cm. Length of the side PR exceeds length of the side PQ by 12 cm. If the perimeter of the triangle is 57 cm, then 50% of the length of the smallest side of  $\triangle PQR$  is equal to:

- 1. 24 cm
- 2. 12 cm
- 3. 21 cm
- 4. 6 cm

Q.3)-

The average of 25 numbers is 54. The average of the first 13 numbers and that of the last 13 numbers is 52.8 and 62.2, respectively. If the 13<sup>th</sup> number is excluded, then what is the average of the remaining numbers (correct to one decimal place)?

- 1. 50.2
- 2. 52.9
- 3. 58.7
- 4. 48.7

Q.4)-

A sum of ₹9,000 is lent partly at 7% and the remaining at 9% per annum. If the yearly interest on the average is 8.5%, then the sum (in ₹) which is lent at 9% is:

- 1. 2,250
- 2. 5,250
- 3. 7,000
- 4. 6,750

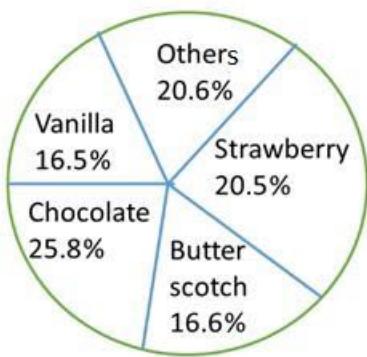
Q.5)-

A railway engine passes two bridges of length 400 m and 235 m in 100 seconds and 60 seconds, respectively. Four times the length of the railway engine (in m) is:

1. 75    2. 25    3. 100    4. 50

**Q.6)-**

The given pie chart represents the popularity of ice-cream flavours in a certain city. Study the pie chart and answer the question that follows.



If 20% of the ‘Others’ category ice-cream is mango flavour and 10300 surveyed people preferred mango flavour, then how many people were surveyed?

1. 2,70,000    2. 1,25,000    3. 2,50,000    4. 1,35,000

**Q.7)-**

If  $3 \tan \theta = 2 \sqrt{3} \sin \theta$ ,  $0^\circ < \theta < 90^\circ$ , then the value of  $\frac{3}{4} \left( \frac{\cosec^2 2\theta + \cot^2 2\theta}{\sin^2 \theta + \tan^2 2\theta} \right)$  is:

1.  $\frac{3}{13}$     2.  $\frac{1}{13}$     3.  $\frac{5}{13}$     4.  $\frac{7}{13}$

**Q.8)-**

The cost price of two articles A and B are in the ratio 4 : 5. While selling these articles, the shopkeeper gains 10% on A and 20% on B, and the difference in the two selling prices is ₹960. The total selling price (in ₹) of both the articles is:

1. 5,120    2. 6,240    3. 6,000    4. 5,400

**Q.9)-**

If the 11-digit number  $79x6402087y$  is divisible by 72, then for smallest value of  $x$ , what is the value of  $(x + 2y)$ ?

1. 6    2. 2    3. 4    4. 9

**Q.10)-**

If  $a + b + c = 1$ ,  $ab + bc + ca = -22$  and  $abc = -40$ , then what is the value of  $(a^3 + b^3 + c^3) + 5$ ?

1. 45    2. -48    3. -53    4. 57

**Q.11)-**

The ratio of the present ages of X and Y is 4 : 7, respectively. After 5 years, the ratio will change to 5 : 8. The present age of Y (in years) is:

1. 20    2. 30    3. 35    4. 24

**Q.12)-**

If the seven-digit number  $7x5345y$  is divisible by 110, then the value of  $(x + 5y)$  is:

1. 7    2. 9    3. 8    4. 10

**Q.13)-**

If 24 men can build a wall in 6 days, then how many days will 36 men take to build a wall of the same type and of double the length?

1. 4    2. 6    3. 2    4. 8

**Q.14)-**

The average of four consecutive even numbers  $a, b, c$  and  $d$  is 33. The value of  $|bd - ac|$  is:

1. 121    2. 112    3. 132    4. 144

**Q.15)-**

In  $\Delta ABC$ ,  $D$  is a point on  $BC$  such that  $\angle ADB = 2\angle DAC$ ,  $\angle BAC = 70^\circ$  and  $\angle B = 46^\circ$ . What is the measure of  $\angle ADC$ ?

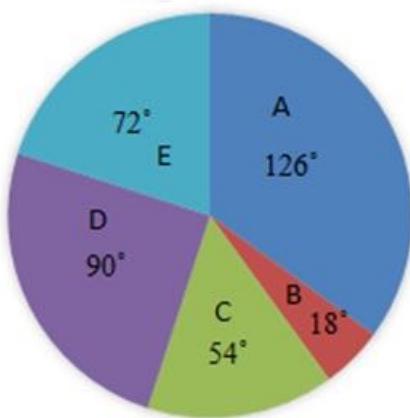
1.  $52^\circ$     2.  $81^\circ$     3.  $74^\circ$     4.  $54^\circ$

**Q.16)-**

Study the given pie chart and answer the question that follows.

The breakup of the total number of employees of a company working in different offices (A to E), in degrees, is given in the pie chart.

Total number of employees = 3600

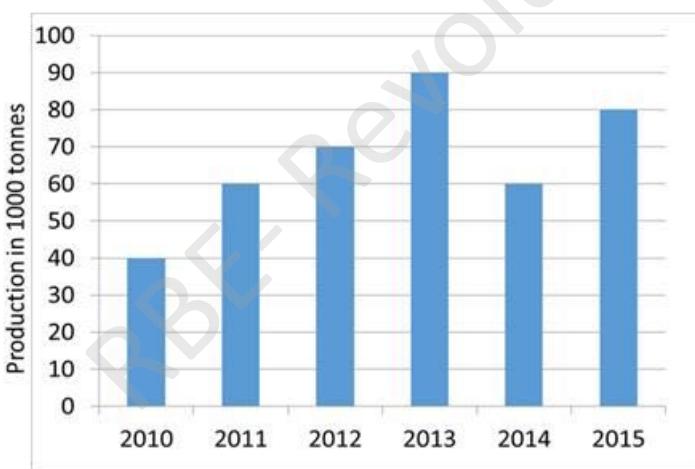


If the percentage of male employees in office C is 20% and that of female employees in office D is 40%, then what is the ratio of the number of male employees in office D to that of female employees in office C?

1. 2 : 5    2. 3 : 4    3. 5 : 4    4. 1 : 6

**Q.17)-**

The given bar chart shows the production of fertilizers by a company (in 1000 tonnes) over 6 years (from 2010 to 2015). Study the bar chart and answer the question that follows.



In which of the following years was the percentage increase in production as compared to the previous year the minimum?

1. 2015    2. 2013    3. 2011    4. 2012

**Q.18)-**

P spends 16% of his income on rent, 18% on groceries, 12% on children's education, and 45% of the remaining on other items. If he saves a sum of ₹13,365, then how much (in ₹) does he spend on groceries?

1. 8,700    2. 7,500    3. 8,100    4. 9,000

**Q.19)-**

A person spends 75% of his income. If his income increases by 29% and his savings also increase by 20%, then the percentage increase in his expenditure is:

1. 32%    2. 30%    3. 28%    4. 36%

**Q.20)-**

P alone can complete 50% of a piece of work in 6 days and Q can complete 50% of the same work in 9 days. With the help of R, they finish the work in 6 days. In how many days can R alone complete 25% of the work?

1. 7    2. 10    3. 8    4. 9

**Q.21)-**

The ratio of the perimeter to the length of a rectangle is 5 : 2. If the area of the rectangle is  $16 \text{ cm}^2$ , then find the breadth of the rectangle (in cm).

1. 4    2. 6    3. 8    4. 2

**Q.22)-**

A shopkeeper marks an article at such a price that after giving a discount of  $12\frac{1}{2}\%$  on the marked price, he still earns a profit of 15%. What is the ratio of the marked price to the selling price of the article?

1. 6 : 5    2. 8 : 7    3. 6 : 1    4. 7 : 9

**Q.23)-**

A man wanted to sell his cycle at 30% profit but actually sold it at 30% loss for ₹2,100. At what price (in ₹) did he want to sell the cycle to earn the profit of 30%?

1. 3,300    2. 4,200    3. 3,900    4. 3,600

**Q.24)-**

If  $2x^2 + 5x + 1 = 0$ , then one of the values of  $\frac{1}{2}(x - \frac{1}{2x})$  is:

1.  $\frac{\sqrt{17}}{2}$     2.  $\frac{\sqrt{17}}{3}$     3.  $\frac{\sqrt{17}}{6}$     4.  $\frac{\sqrt{17}}{4}$

**Q.25)-**

P can cover a certain distance in 4 hours 40 minutes by covering two-third of the distance at 4 km/h and the remaining distance at 5 km/h. 25% of the total distance (in km) covered by P is:

1. 4    2. 6    3. 3    4. 5

## Answer key

Q.1	3	Q.2	4	Q.3	1	Q.4	4	Q.5	4
Q.6	3	Q.7	3	Q.8	2	Q.9	3	Q.10	2
Q.11	3	Q.12	3	Q.13	4	Q.14	3	Q.15	1
Q.16	3	Q.17	4	Q.18	3	Q.19	1	Q.20	4
Q.21	4	Q.22	2	Q.23	3	Q.24	4	Q.25	4

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## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

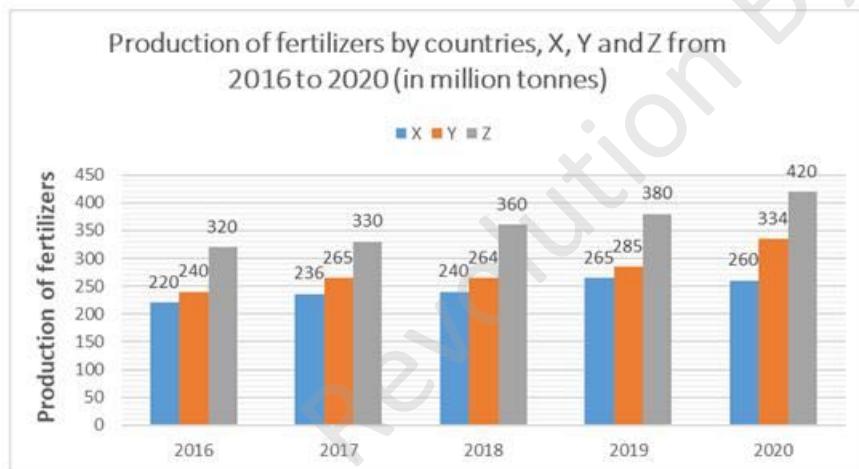
10/02/2022-> (12:00 PM - 1:00 PM)

### Quantitative Aptitude

Q.1)-

Study the given graph and answer the question that follows.

The graph shows the production of fertilizers by countries X, Y and Z (in million tonnes) from the year 2016 to 2020.



The ratio of the production of fertilizers by country Z in 2019 to the total production of fertilizers by country X in 2017 and country Y in 2020 is:

1. 1 : 2    2. 2 : 3    3. 3 : 5    4. 1 : 5

Q.2)-

If  $\sqrt{x} + \frac{3}{\sqrt{x}} = 4$ , then what is the value of  $x^2(x^2 - 82)$ ?

1. -9    2. 36    3. -36    4. -81

Q.3)-

A's salary is 32% more than B's. How much per cent (correct to the nearest integer) is B's salary less than A's?

- 1.** 18%    **2.** 24%    **3.** 25%    **4.** 20%

**Q.4)-**

A merchant fixes the sale price of his goods at 31% above the cost price. He sells his goods at 13% less than the fixed price. His profit percentage is:

- 1.** 18.71%    **2.** 17.18%    **3.** 13.97%    **4.** 15.71%

**Q.5)-**

An article was sold at a loss of 15%. If it was sold for ₹1,035 more, then there would have been a profit of 8%. The original selling price (in ₹) of the article is:

- 1.** 3,582    **2.** 2,759    **3.** 2,975    **4.** 3,825

**Q.6)-**

14 men complete a work in 10 days. If 7 men are employed, then in how many days will they complete the same work?

- 1.** 30    **2.** 5    **3.** 20    **4.** 15

**Q.7)-**

Let  $\Delta ABC \sim \Delta PQR$  and  $\frac{\text{ar}(\Delta ABC)}{\text{ar}(\Delta PQR)} = \frac{25}{144}$ . If  $AB = 12$  cm,  $BC = 7$  cm and  $AC = 9$  cm, then  $PR$  (in cm) is equal to:

- 1.** 16.3    **2.** 21.6    **3.** 32.6    **4.** 14.4

**Q.8)-**

A library has an average of 538 visitors on Sundays and 237 on other days. The average number of visitors (approximate to the nearest integer) per day in a month of 31 days beginning with a Monday is:

- 1.** 276    **2.** 252    **3.** 254    **4.** 280

**Q.9)-**

An article is sold at a profit of 13.25%. Had it been sold for ₹76.70 more, the profit would have been 16.2%. 20% of the cost price of the article (in ₹) is:

- 1.** 450    **2.** 750    **3.** 520    **4.** 650

**Q.10)-**

The given table shows the number of seats booked in different classes of a train on a particular day, and the numbers in brackets show the total availability of that particular class. Study the table and answer the question that follows.

Day	2nd Class Non-AC (900)	1st Class Non-AC (500)	AC III Tier (500)	AC II Tier (250)	AC 1st Class (150)
Monday	850	460	480	240	145
Tuesday	840	400	450	230	120
Wednesday	830	390	480	220	130
Thursday	790	480	490	250	125
Friday	840	470	500	210	130

If the data related to the vacant seats for AC 1st Class is represented by a pie-chart, then the central angle of the sector representing vacant seats for AC 1st class for Friday is:

1.  $72^\circ$     2.  $108^\circ$     3.  $90^\circ$     4.  $75^\circ$

**Q.11)-**

Out of five numbers A, B, C, D and E, the average of the first four numbers A, B, C and D is greater than the average of the last four numbers B, C, D and E by 35. The value of  $\frac{A-E}{7}$  is:

1. 30    2. 20    3. 10    4. 40

**Q.12)-**

A borrows a sum of ₹3,500 for 6 years at 5% p.a. simple interest. He lends it to B at 9% p.a. for 3 years. What is his gain or loss?

1. ₹140 gain    2. ₹105 loss    3. ₹180 loss    4. ₹180 gain

**Q.13)-**

If  $\sec x = \operatorname{cosec}(2x - 45^\circ)$ ,  $0^\circ < x < 90^\circ$ , then  $x$  is equal to:

1.  $45^\circ$     2.  $60^\circ$     3.  $15^\circ$     4.  $30^\circ$

**Q.14)-**

If the number 556743A57B is divisible by 8 and 9, then find  $2A - B$ .

1. 3    2. 1    3. 0    4. 6

**Q.15)-**

If a nine-digit number 85345x61y is divisible by 72, then the value of  $(2x - y)$  is:

1. 7    2. 8    3. 6    4. 9

**Q.16)-**

A can finish 50% of a work in 30 days. He works at it for 15 days and then B alone finishes the remaining work in 30 days. In how many days can A and B working together finish 25% of the whole work?

1. 10    2. 6    3. 8    4. 9

**Q.17)-**

If  $a^2 + b^2 + 49c^2 + 18 = 2(b + 28c - a)$ , then the value of  $(a - b + 7c)$  is:

1. 2    2. 1    3. -2    4. -1

**Q.18)-**

A number is decreased by 35%, then increased by 25% and then further increased by 15%. What is the net increase/decrease percentage in the number (correct to the nearest integer)?

1. 14% increase    2. 6% increase    3. 15% decrease    4. 7% decrease

**Q.19)-**

In  $\Delta ABC$ ,  $\angle A = 48^\circ$ . AB and AC are produced to points D and E, respectively. If the bisectors of  $\angle CBD$  and  $\angle BCE$  meet at a point O, then  $\angle BOC$  is equal to:

1.  $84^\circ$     2.  $42^\circ$     3.  $66^\circ$     4.  $132^\circ$

**Q.20)-**

The ratio of the profits of P and Q are 5 : 8. What is their investment ratio if their investment time period ratio is 4 : 5?

1.  $25 : 32$     2.  $16 : 25$     3.  $32 : 21$     4.  $11 : 17$

**Q.21)-**

A person travelled from a place Z to P at an average speed of 130 km/h. He travelled the first 75% of the distance in two-third of the time and the rest at a constant speed of X km/h. The value of  $2X$  is:

1. 105    2. 195    3. 210    4. 97.5

**Q.22)-**

If a side of a square is increased by 20%, then its area will increase by:

1. 20%    2. 44%    3. 80%    4. 40%

**Q.23)-**

The given pie chart shows the percentage distribution of a total of 1600 employees in different departments of a company. The given table shows the ratio of male to female employees in the different departments. Study the pie chart and table and answer the question that follows.

**Percentage (%) of Employees in Different Departments**



Departments	Male : Female
HR	3 : 5
IT	2 : 3
Accounts	3 : 7
Marketing	7 : 4
Production	5 : 3

What is the total number of female employees in the company?

1. 788    2. 920    3. 812    4. 794

**Q.24)-**

Thirty persons working 6 hours a day can complete a work in 28 days. How many days will 28 persons take to complete another work which is half times the present work, if they work 9 hours a day?

1. 10    2. 9    3. 12    4. 8

**Q.25)-**

A man takes 5 minutes to cover a certain distance at a speed of 6 km/h. If he walks at a speed of 10 km/h, how much time (in minutes) will he take to cover double the distance?

1. 5    2. 6    3. 4    4. 8

### Answer key

Q.1	2	Q.2	4	Q.3	2	Q.4	3	Q.5	4
Q.6	3	Q.7	2	Q.8	1	Q.9	3	Q.10	1
Q.11	2	Q.12	2	Q.13	1	Q.14	4	Q.15	2
Q.16	2	Q.17	1	Q.18	4	Q.19	3	Q.20	1
Q.21	2	Q.22	2	Q.23	3	Q.24	1	Q.25	2



## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

11/02/2022-> (9:00 AM - 10:00 AM)

### Quantitative Aptitude

Q.1)-

A person travels equal distances at speeds of 3 km/h, 4 km/h, 7 km/h and 12 km/h, and takes a total of 680 minutes. What is the total distance (in km) travelled?

1. 56    2. 50    3. 28    4. 30

Q.2)-

A, B and C are three boxes containing marbles in the ratio 2 : 3 : 5, and the total number of marbles is 80. If 6 marbles are transferred from A to B and 10 marbles are transferred from C to B, then the new ratio of marbles for B : A : C is:

1. 1 : 4 : 3    2. 1 : 5 : 3    3. 4 : 1 : 3    4. 1 : 5 : 4

Q.3)-

In  $\Delta ABC$ , right-angled at B, if  $\tan A = \frac{1}{2}$ , then the value of  $\frac{\sin A (\cos A - \cos C)}{\cos C (\sin C - \sin A)}$  is:

1. -1    2. 3    3. 1    4. -3

Q.4)-

If the 11-digit number  $89x6402087y$  is divisible by 72, then what is the value of  $(2x - y)$ ?

1. 15    2. 16    3. 13    4. 14

Q.5)-

On a marked price, the difference between the selling prices with a discount of 35% and two successive discounts of 20% and 15% is ₹990. The marked price of the article (in ₹) is:

1. 33,000    2. 36,000    3. 40,000    4. 30,000

Q.6)-

A saves 35% of his income. His income is increased by 20.1% and expenditure is increased by 25%. By what percentage does his saving increase or decrease?

1. 13% increase    2. 11% increase    3. 9% decrease    4. 14% decrease

**Q.7)-**

The length, breadth and height of a rectangular box are in the ratio 3 : 2 : 4, respectively, and the cost of covering it with a sheet of paper at the rate of ₹1.50 per square metre is ₹1,950. Find 50% of the volume of the box (in m<sup>3</sup>).

1. 1600    2. 1500    3. 1800    4. 1750

**Q.8)-**

In  $\Delta ABC$ ,  $\angle A = 66^\circ$  and  $\angle B = 50^\circ$ . The bisectors of  $\angle B$  and  $\angle C$  meet at  $P$ . Then,  $\angle BPC + \angle PCA = ?$

1.  $117^\circ$     2.  $197^\circ$     3.  $155^\circ$     4.  $150^\circ$

**Q.9)-**

The average of a set of 20 consecutive integers is 25.5. What is the smallest integer in the set?

1. 27    2. 16    3. 35    4. 11

**Q.10)-**

A can complete a work in 15 days if he works for 8 hours a day. In order to complete the work in 12 days, for how many hours per day should he work?

1. 8 h 48 min    2. 12 h    3. 10 h    4. 6 h 24 min

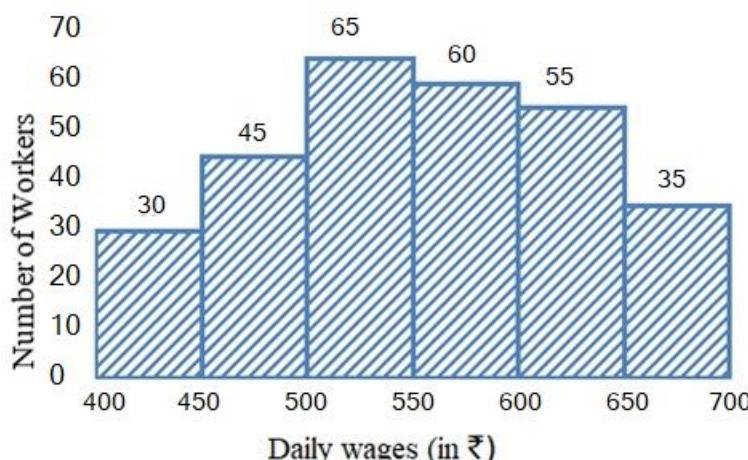
**Q.11)-**

The difference between the selling price of some apples if sold for ₹15 per apple instead of ₹11 per apple is ₹800. If the cost price of all the apples is ₹1,800, the selling price (in ₹) of 20 apples if profit earned is 10% is:

1. 189    2. 176    3. 200    4. 198

**Q.12)-**

The graph shows the daily wages of the workers (in ₹) for the number of workers. Study the graph and answer the question that follows.



The total number of workers whose daily wages are less than ₹500 is what percentage less than the total number of workers whose daily wages are ₹600 and above (correct to one decimal place)?

1. 18.2%    2. 19.3%    3. 15.4%    4. 16.7%

**Q.13)-**

In an isosceles triangle ABC, AB = AC and AD is perpendicular to BC. If AD = 5 cm and the perimeter of  $\Delta ABC$  is 50 cm, then twice the length of BC (in cm) is:

1. 52    2. 48    3. 42    4. 44

**Q.14)-**

How many numbers are there from 500 to 550 (including both) which are neither divisible by 3 nor by 11?

1. 18    2. 11    3. 30    4. 28

**Q.15)-**

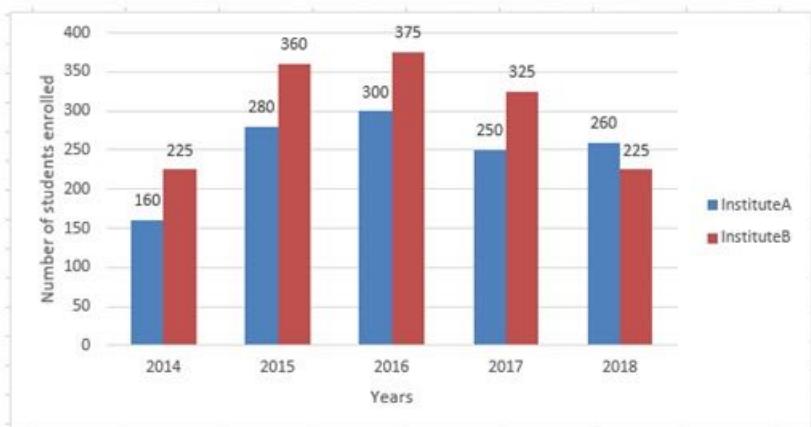
The sum of three positive numbers is 202. If the ratio of the first number to the second number is 2 : 7 and that of the second number to the third number is 5 : 8, the difference between the second and third numbers is:

1. 32    2. 42    3. 12    4. 52

**Q.16)-**

Study the given bar graph and answer the question that follows.

The bar graph shows the number of students enrolled in Institutes A and B during 5 years (2014 to 2018).



If the students of Institute A for each year are represented on a pie chart, then the angle corresponding to year 2016 will be:

1.  $86.4^\circ$     2.  $85.5^\circ$     3.  $72.8^\circ$     4.  $100.5^\circ$

**Q.17)-**

The average weight of 44 members of a club is 68.5 kg. If 6 members of average weight 72.8 kg leave and 2 new members of average weight 56.1 kg join the club, then the average weight (in kg) of the present members of the club is (correct to nearest integer):

1. 65    2. 67    3. 69    4. 61

**Q.18)-**

In a corporation election, two candidates fought for the post of Mayor. One candidate got 40% of the valid votes. 23% of the votes were invalid. If the total votes were 21000, what is the number of valid votes that the other candidate got?

1. 9901    2. 9817    3. 9716    4. 9702

**Q.19)-**

If  $a + b + c = 8$  and  $ab + bc + ac = 14$ , then what is the value of  $(a^3 + b^3 + c^3 - 3abc)$ ?

1. 400    2. 624    3. 176    4. 278

**Q.20)-**

The simple interest on a certain sum of money at the rate of 8% p.a. for 9 years is ₹2,880. At what rate of interest can the same amount of interest be received on the same sum for 12 years?

1. 5%    2. 8%    3. 6%    4. 10%

**Q.21)-**

If  $2x - y = 2$  and  $xy = \frac{3}{2}$ , then what is the value of  $\frac{1}{2}(x^3 - \frac{y^3}{8})$ ?

1.  $\frac{13}{4}$     2.  $\frac{13}{2}$     3.  $\frac{13}{8}$     4.  $\frac{13}{6}$

**Q.22)-**

When the speed of a truck is increased by 20%, it takes 25 minutes less to cover the same distance. What is the time (in hours) taken to cover twice the distance at its actual speed?

1. 3    2. 4    3. 6    4. 5

**Q.23)-**

The profit earned by selling an article for ₹1,664 is equal to the loss incurred when the article is sold for ₹896. What should be the selling price (in ₹) if it is sold at a profit of 10%?

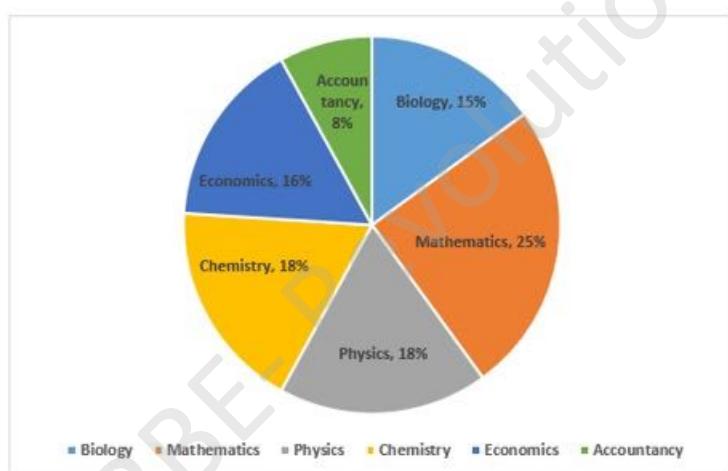
1. 1,280    2. 1,320    3. 1,408    4. 1,500

**Q.24)-**

Study the given pie chart and answer the question that follows.

The pie chart shows the percentage-wise distribution of teachers who teach six different subjects.

Total number of teachers = 1600



If three-eighth of the teachers who teach Chemistry are females, then the number of male Chemistry teachers is what percentage of the total number of teachers who teach Biology?

1. 45%    2. 60%    3. 55%    4. 75%

**Q.25)-**

A and B can finish a job in 10 days and 5 days, respectively. They worked together for 2 days, after which B was replaced by C and the job was finished in the next 3 days. In how many days will C alone finish 50% of the job?

1. 21    2. 30    3. 18    4. 15

## Answer key

Q.1	1	Q.2	3	Q.3	3	Q.4	4	Q.5	1
Q.6	2	Q.7	2	Q.8	3	Q.9	2	Q.10	3
Q.11	4	Q.12	4	Q.13	2	Q.14	3	Q.15	2
Q.16	1	Q.17	2	Q.18	4	Q.19	3	Q.20	3
Q.21	3	Q.22	4	Q.23	3	Q.24	4	Q.25	4

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## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

14/03/2022-> (12:00 PM - 1:00 PM)

### Quantitative Aptitude

**Q.1)-**

The ratio of acid and water in solutions A and B is 15 : 11 and 4 : 9, respectively. 6 litres of A is mixed with 4 litres of B. How much acid (in ml) should be added to 390 ml of the resulting solution so that the ratio of acid and water in it becomes 3 : 2?

1. 128    2. 126.5    3. 127.5    4. 130

**Q.2)-**

The income of A is 25% more than that of B, and B's income is 20% more than that of C. D's income is 60% of the combined income of B and C. Which of the following is true?

1. The income of D is 12% less than that of A.    2. The income of B is 12% less than that of D.    3. The income of C is 32% less than that of D.    4.

The income of C is 50% less than that of A.

**Q.3)-**

A and B can do a certain work in 27 days and 36 days, respectively. A worked for a few days and then B joined him. They together worked till the completion of the work. If the work got completed in a total of 18 days, then for how many days did A and B work together?

1. 12    2. 18    3. 10    4. 15

**Q.4)-**

A tyre has 3 punctures. The first puncture alone would have made the tyre flat in 14 minutes, the second alone would have done it in 28 minutes, the third alone would have done it in 56 minutes. If air leaks out at a constant rate, how long (in minutes) does it take for all the punctures together to make the tyre flat?

1. 5    2. 6    3. 8    4. 7

**Q.5)-**

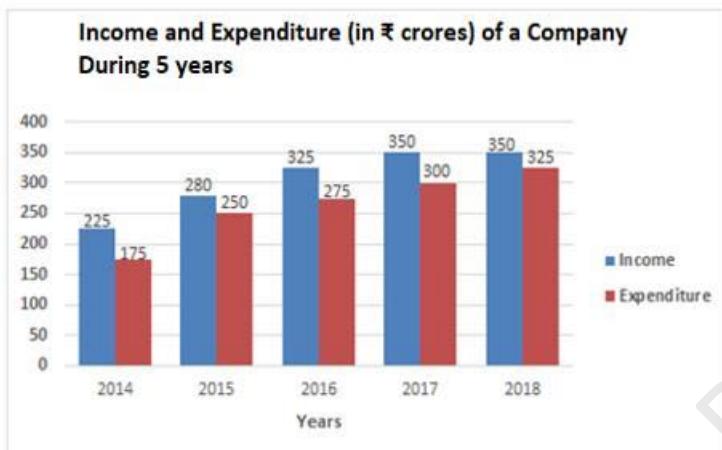
In  $\triangle ABC$ , D and E are the points on sides AB and BC, respectively, such that  $DE \parallel AC$ . If  $BD = 3$  cm and  $AD = 4$  cm,

then  $\frac{\text{Area of } \triangle BDE}{\text{Area of quadrilateral ADEC}} = \frac{p}{q}$ , where p, q are coprime. What is the value of  $|p - q|$ ?

1. 40    2. 31    3. 33    4. 37

**Q.6)-**

The given bar graph shows the income and expenditure (in ₹ crores) of a company during 5 years (2014 to 2018).



In which year is the ratio of the income to expenditure the lowest and highest, respectively?

1. 2018, 2014    2. 2014, 2017    3. 2016, 2015    4. 2015, 2017

**Q.7)-**

P and Q travel a distance of 120 km such that the speed of P is faster than Q. The sum of their speeds is 75 km/h and together they took the total time of 6 hours and 40 minutes. Then the speed of Q (in km/h) is

1. 30    2. 25    3. 42    4. 40

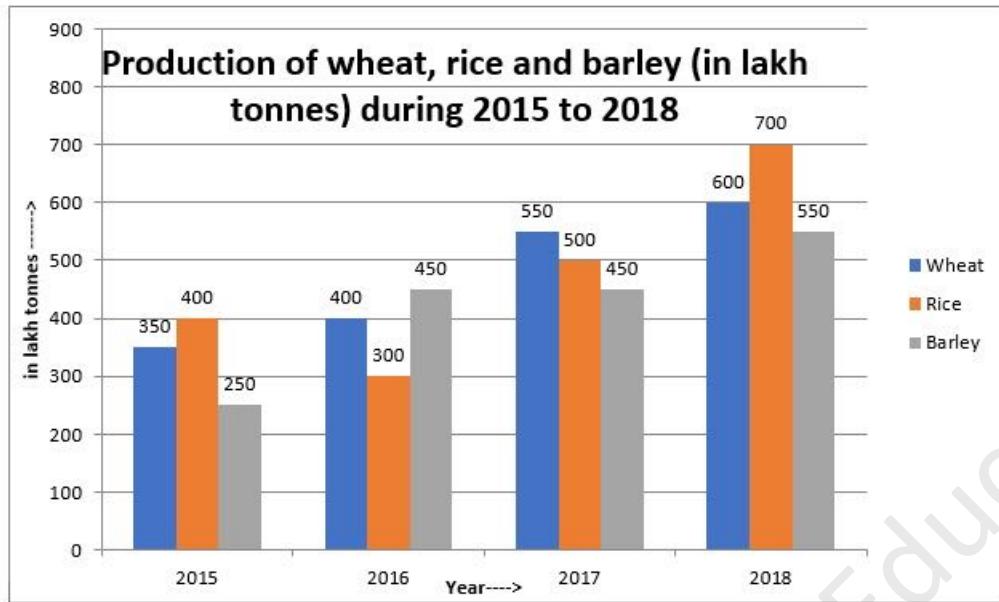
**Q.8)-**

A person travels equal distances at speeds of 2 km/h, 4 km/h, 5 km/h, 7 km/h and 12 km/h, and takes a total of 1485 minutes. What is the total distance (in km) travelled (to the nearest integer)?

1. 200    2. 175    3. 125    4. 105

**Q.9)-**

Study the given graph and answer the following questions.



What is the ratio of the total production of wheat in 2015 and 2017 to the total production of rice and barley in 2016?

1. 6 : 5    2. 4 : 3    3. 3 : 2    4. 5 : 4

**Q.10)-**

A shopkeeper gains 20% when he sells an article at a 20% discount on its marked price. If the cost price of the article is reduced by 20% and he wants to earn a profit of 26%, then how much per cent discount should he give on the same marked price of the article?

1. 30.2%    2. 35.2%    3. 32.8%    4. 30.6%

**Q.11)-**

If a seven digit number  $53345xy$  is divisible by 40, for some possible value of  $x$  and  $y$ , then the one value of  $(2x - 5y)$  is:

1. 10    2. 9    3. 12    4. 8

**Q.12)-**

If the 9-digit number  $45069x4y8$  is divisible by 44, then what is the value of  $(x - 2y)$  for the minimum value of  $y$ ?

1. 3    2. 4    3. 1    4. 0

**Q.13)-**

Seven years ago, the ratio of the ages of A and B was 2 : 7. The ratio of their present ages is 3 : 8. What will be the ratio of the ages of A and B, four years from now?

1. 1 : 3    2. 5 : 12    3. 4 : 11    4. 2 : 5

**Q.14)-**

The average runs scored by Sumit in the first 3 matches is 122. In the 4<sup>th</sup> match, he scored some runs such that his average runs now become 130. In the 5<sup>th</sup> match, he scored 14 less runs than those in the 4<sup>th</sup> match, and now the average of his last 4 matches becomes 164. The runs scored by Sumit in the 1<sup>st</sup> match is:

1. 9    2. 5    3. 3    4. 4

**Q.15)-**

If  $x^2 - \sqrt{13}x + 1 = 0$ , then  $(x^3 + x^{-3})$  is equal to:

1.  $4\sqrt{13}$     2.  $10\sqrt{13}$     3.  $8\sqrt{13}$     4.  $7\sqrt{13}$

**Q.16)-**

In equilateral  $\triangle ABC$ , E is a point on side AC such that  $AE = AD$ , where D is the mid-point of BC. What is the measure of  $\angle EDC$ ?

1.  $15^\circ$     2.  $30^\circ$     3.  $10^\circ$     4.  $20^\circ$

**Q.17)-**

When an article is sold for ₹948, there is a loss of 21%. To gain 23%, it should be sold at (in ₹):

1. 1,674    2. 1,764    3. 1,746    4. 1,476

**Q.18)-**

The savings of Surbhi is 16% of her expenditure. If her income increases by 35% and the expenditure increases by 38%, then by what percentage do her savings increase/decrease?

1. Decrease by 12.25%    2. Increase by 16.25%    3. Increase by 22.5%    4. Decrease by 13.9%

**Q.19)-**

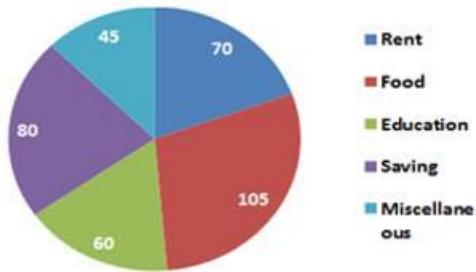
On selling an article for ₹246.80, the gain is 20% more than the amount of loss incurred on selling it for ₹216. If the article is sold for ₹320.75, then what is the percentage (correct to one decimal place) profit/loss?

1. Loss of 28.7%    2. Profit of 39.5%    3. Loss of 35.9%    4. Profit of 27.8%

**Q.20)-**

The given pie chart shows the degree-wise break-up of the expenditure of a family in a month. The total expenditure of the family is ₹43,200.

**Degree-wise break-up of the expenditure of a family in a month**



By what percentage is the expenditure on education and rent taken together more than the expenditure on food (correct to two decimal places)?

1. 23.18%    2. 23.81%    3. 21.83%    4. 28.31%

**Q.21)-**

What will be cost of polishing the curved surface area of a solid cylinder at rate of ₹28 per sq.m, if it has diameter of 70 cm and height of 7 m? (Use  $\pi = \frac{22}{7}$ )

1. ₹431.20    2. ₹425.80    3. ₹255.37    4. ₹477.20

**Q.22)-**

The average weight of P, Q and R is 57 kg. If the average weight of Q and R is 60 kg and that of R and P is 59 kg, then the weight (in kg) of R is:

1. 43    2. 67    3. 57    4. 47

**Q.23)-**

Simplify the given expression:

$$\left( \frac{(a+x)(ax^2-x^2)}{a^2+x^2} \times \frac{a^2-ax+x^2}{a^2x^2+x^4} \right) \div \frac{(a^2-2ax+x^2)(a-x)}{(a^4-x^4)}, a \neq x$$

1.  $a^4 - x^4$     2.  $\frac{a+x}{a-x}$     3.  $a^2 - x^2$     4.  $\frac{a-x}{a+x}$

**Q.24)-**

If  $\frac{1}{1+tan\theta} + \frac{1}{1-tan\theta} = 4$ ,  $0^\circ < \theta < 90^\circ$ , then what is the value of  $cosec\theta + sec\theta + sin\theta$ ?

1.  $\frac{4+3\sqrt{2}}{\sqrt{6}}$     2.  $\frac{3\sqrt{3}}{2}$     3.  $\frac{3+4\sqrt{2}}{\sqrt{6}}$     4.  $\frac{8\sqrt{3}}{3}$

**Q.25)-**

A sum of ₹36,000 is lent partly at 9% and the remaining at 7% per annum. If the yearly interest on the average is 8.5%, then the sum (in ₹) which is lent at 9% is:

1. 30,500    2. 33,500    3. 24,500    4. 27,000

### Answer key

Q.1	3	Q.2	1	Q.3	1	Q.4	3	Q.5	2
Q.6	1	Q.7	1	Q.8	4	Q.9	1	Q.10	3
Q.11	3	Q.12	1	Q.13	2	Q.14	4	Q.15	2
Q.16	1	Q.17	4	Q.18	2	Q.19	2	Q.20	2
Q.21	1	Q.22	2	Q.23	2	Q.24	3	Q.25	4

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## SSC selection Post Phase -ix Higher Secondary Level Compilation by Shubham Jain (RBE)

15/03/2022-> (12:00 PM - 1:00 PM)

### Quantitative Aptitude

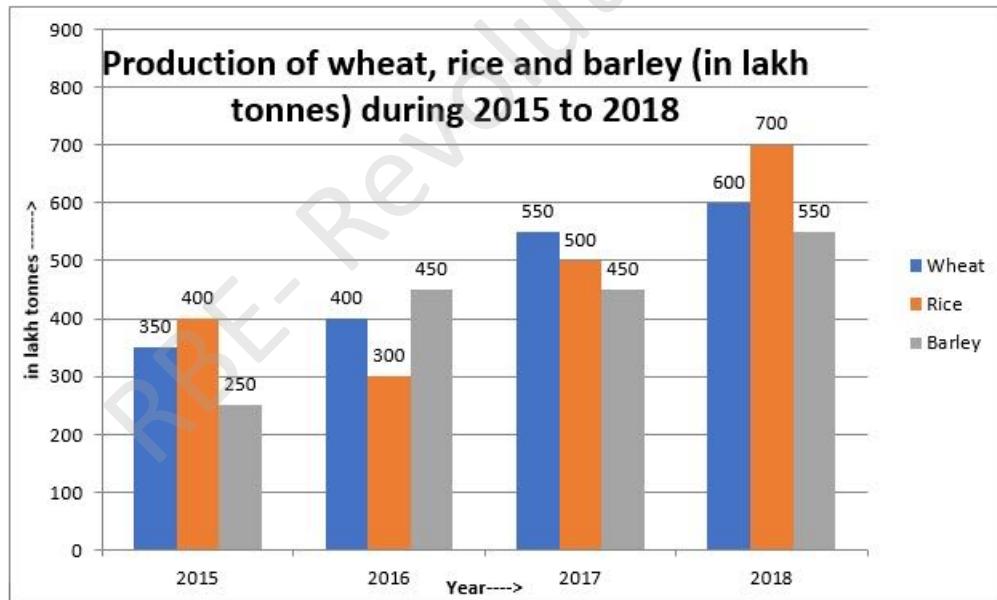
Q.1)-

In  $\triangle ABC$ , AB and AC are produced to points D and E, respectively. If the bisectors of  $\angle CBD$  and  $\angle BCE$  meet at point O such that  $\angle BOC = 76^\circ$ , then  $\angle A = ?$

1.  $28^\circ$     2.  $56^\circ$     3.  $76^\circ$     4.  $14^\circ$

Q.2)-

Study the given graph and answer the following questions.



45% of the total production of barley in given 4 years is what per cent more than the average production (per year) of wheat, rice and barley in 2017?

1. 54%    2. 54.5%    3. 52.5%    4. 53%

Q.3)-

Telegram (Previous year papers PDFs [SSC,Railway,DSSSB,UP SI]):

[https://t.me/RBE\\_S](https://t.me/RBE_S)

29

YouTube (Free lectures and job updates):

<https://youtu.be/HIRRafUmCmk>

If  $\cos^2\theta - \sin^2\theta - 3\cos\theta + 2 = 0$ ,  $0^\circ < \theta < 90^\circ$ , then what is the value of  $1 + 5\cos\theta + \frac{\tan\theta}{2}$ ?

1.  $\frac{1-\sqrt{3}}{2}$     2.  $\frac{7+\sqrt{3}}{2}$     3.  $\frac{3+\sqrt{3}}{2}$     4.  $\frac{5-\sqrt{3}}{2}$

**Q.4)-**

A trader sells an item for ₹516.60 after offering a discount of 18% on its list price. Had he not given the discount, he would have earned a profit of 26%. What is the cost price (in ₹) of the item?

1. 450    2. 525    3. 520    4. 500

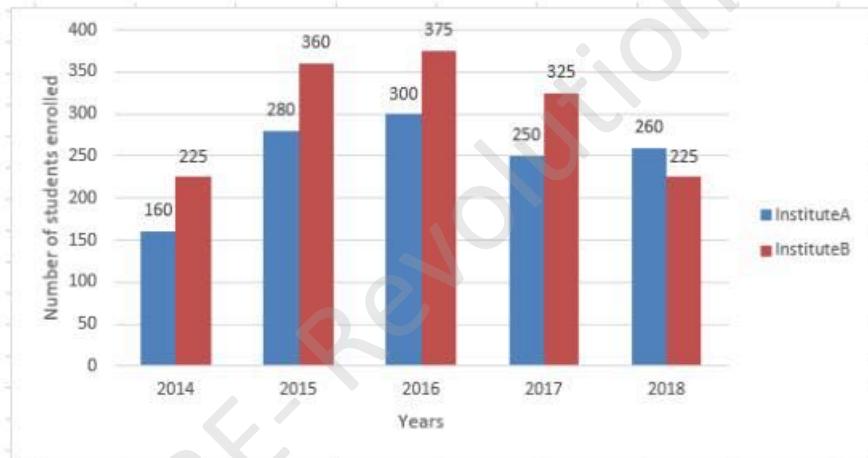
**Q.5)-**

A watch is sold at a profit of 25%. If both the cost price and the selling price of the watch are decreased by ₹75, then the profit would be 30%. The original selling price (in ₹) of the watch is:

1. 525.60    2. 552.60    3. 526.50    4. 562.50

**Q.6)-**

The given bar graph shows the number of students enrolled in Institutes A and B during 5 years (2014 to 2018).



What is the ratio of the total number of students enrolled in both the institutes during 2017 and 2018 to that of the number of students enrolled in institute B for the year 2016?

1. 113 : 71    2. 75 : 212    3. 71 : 113    4. 212 : 75

**Q.7)-**

A number is increased by 20% then decreased by 27% and then further increased by 10%. What is the net increase/decrease percentage in the number (correct to the nearest integer)?

1. 6% increase    2. 7% decrease    3. 5% increase    4. 4% decrease

**Q.8)-**

The length of a wire (in cm) of 0.5 mm radius that can be drawn after melting a solid copper sphere of diameter 12 cm is:

1. 11500    2. 1150    3. 11520    4. 1152

**Q.9)-**

If  $2x + \frac{1}{3x} + 1 = 0, x \neq 0$ , then what is the value of  $\sqrt[3]{27x^3 + \frac{1}{8x^3}}$ ?

1.  $\frac{3}{4}$     2.  $2\sqrt{3}$     3.  $\frac{\sqrt{3}}{2}$     4.  $\frac{3}{2}$

**Q.10)-**

A and B together can complete a work in 15 days. If A, B and C working together can complete the same work in 10 days, then in how many days can C alone complete the same work?

1. 28    2. 35    3. 30    4. 20

**Q.11)-**

In  $\triangle ABC$ , D and E are points on sides AB and BC, respectively, such that  $DE \parallel AC$ . If  $BD = 4\sqrt{6}$  and  $AB = 12\sqrt{3}$  cm, then the ratio of the area of  $\triangle BDE$  to that of quadrilateral ACED is:

1. 4 : 11    2. 2 : 9    3. 1 : 3    4. 2 : 7

**Q.12)-**

The ratio between the speeds of two trains is 2 : 7. If the first train runs 350 km in 2 hours, then the sum of the speeds (in km/h) of both the trains is:

1. 780.5    2. 787.5    3. 775    4. 750.5

**Q.13)-**

The average of 37 numbers is 80. The average of the first 19 numbers is 75 and the average of the last 19 numbers is 84. If the 19<sup>th</sup> number is excluded, what is the average of the remaining numbers (approximate to one decimal place)?

1. 77.5    2. 87.5    3. 80.5    4. 82.5

**Q.14)-**

A man buys 120 toys each at the same cost price. He sells 45% of the toys at 40% profit, one-third of the remaining at 20% profit, and the remaining at a loss which is equal to the cost price of 14 toys. His profit per cent in the entire transaction is:

1. 12%    2.  $9\frac{1}{11}\%$     3. 10%    4.  $8\frac{1}{3}\%$

**Q.15)-**

A train passes two bridges 400 m and 295 m long in 75 seconds and 60 seconds, respectively. How much time (in seconds) will the train take to cross another train of length 325 m running on parallel tracks at the speed of 97.2 km/h in opposite direction?

1. 20    2.  $27\frac{1}{2}$     3. 25    4.  $22\frac{1}{2}$

**Q.16)-**

A certain sum invested at simple interest amounts to ₹10,072 in  $3\frac{1}{2}$  years and to ₹11,552 in 6 years at the same rate per annum. The rate of interest p.a. is:

1. 7.8%    2. 7.4%    3. 7.5%    4. 8.5%

**Q.17)-**

A can do a certain work in 40 days. B is 60% more efficient than A. Both work together for 10 days. C alone completes the remaining work in  $10\frac{1}{2}$  days. Working together, B and C can complete 44% of the original work in:

1. 5 days    2. 6 days    3. 8 days    4. 9 days

**Q.18)-**

If the 10-digit number 96530y15x8 is divisible by 72, then what is the value of  $(3x - 7y)$  for the maximum value of x?

1. 3    2. 8    3. 4    4. 5

**Q.19)-**

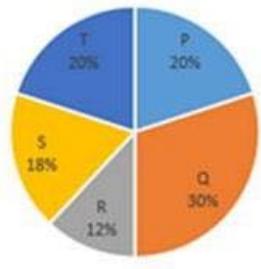
The ratio of the incomes of A and B is 2 : 3 and the ratio of their expenditures is 5 : 7. If 7 times the income of A is equal to 6 times the expenditure of B, then what is the ratio of the savings of A and B?

1. 5 : 9    2. 1 : 2    3. 3 : 5    4. 2 : 3

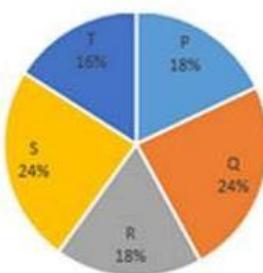
**Q.20)-**

The following pie charts represent the distribution of candidates who were enrolled for a competitive examination, and the candidates (out of those enrolled) who passed the exam from five different institutes P, Q, R, S and T.

Total number of candidates who enrolled in five different institutes = 7500



Total number of candidates who passed the examination from five institutes = 4000



The total number of candidates who enrolled in institutes P, R and T together is what percentage more than the number of candidates who passed from institutes P, R and T together?

1. 87.5%    2. 85.7%    3. 84.3%    4. 83.4%

**Q.21)-**

Two possible numbers are in the ratio 7 : 11. If the sum of their squares is 13770, then the difference between the two numbers is:

1. 36    2. 72    3. 28    4. 44

**Q.22)-**

The average of a set of 20 consecutive integers is 21.5. What is the smallest integer in the set?

1. 31    2. 12    3. 11    4. 33

**Q.23)-**

If  $x + y + z = 4$ ,  $xy + yz + zx = 1$  and  $x^3 + y^3 + z^3 = 34$ , then what is the value of  $6xyz$ ?

1. -36    2. 6    3. -6    4. 12

**Q.24)-**

If  $(x + 10)\%$  of 300 is 57.5% more than  $x\%$  of 250, then 15% of  $x$  is what percentage less than 20% of  $(x + 13)$ ?

1.  $48\frac{2}{3}\%$     2.  $46\frac{2}{3}\%$     3.  $42\frac{1}{3}\%$     4.  $44\frac{1}{3}\%$

**Q.25)-**

If the seven-digit number  $49x29y6$  is divisible by 72, then what will be the value of  $(x + 2y)$  for the largest value of  $x$  and  $y$ ?

1. 25    2. 12    3. 18    4. 22

## Answer key

Q.1	1	Q.2	4	Q.3	2	Q.4	4	Q.5	4
Q.6	4	Q.7	4	Q.8	4	Q.9	4	Q.10	3
Q.11	4	Q.12	2	Q.13	3	Q.14	3	Q.15	4
Q.16	2	Q.17	2	Q.18	3	Q.19	2	Q.20	1
Q.21	1	Q.22	2	Q.23	1	Q.24	2	Q.25	4

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## SSC selection Post Phase -ix

### Higher Secondary Level Compilation by Shubham Jain (RBE)

**16/03/2022-> (3:00 PM - 4:00 PM)**

#### **Quantitative Aptitude**

**Q.1)-**

A, B and C can do a work together. The ratio of the work that A and B do together with respect to what C does is 13 : 3, and the ratio of the work that B and C do together to the work that A does is 1 : 1. Which worker among the three is the most efficient?

- 1. C    2. A    3. All work equally    4. B**

**Q.2)-**

Let  $\Delta ABC \sim \Delta PQR$  and  $\frac{ar(\Delta ABC)}{ar(\Delta PQR)} = \frac{49}{144}$ . If AB = 12 cm, BC = 9 cm and AC = 7 cm, then QR (in cm) is equal to:

- 1. 12    2. 16    3. 19    4. 21**

**Q.3)-**

A merchant fixes the sale price of his goods at 33% above the cost price. He sells his goods at 23% less than the fixed price. His profit percentage is:

- 1. 2.41%    2. 2.14%    3. 1.24%    4. 4.12%**

**Q.4)-**

When a positive integer n is divided by 9, the remainder is 4. What is the remainder when  $(3n^3 + 2n^2 + 5n)$  is divided by 9?

- 1. 2    2. 1    3. 3    4. 8**

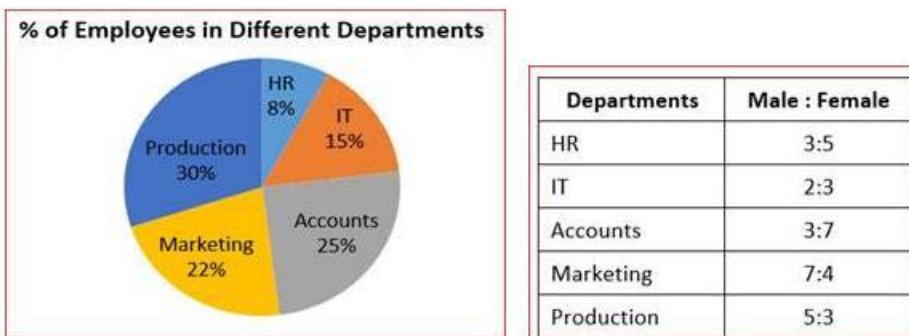
**Q.5)-**

In an examination, the number of those who passed and the number of those who failed were in the ratio 25 : 4. If three more had appeared and the number of those who failed was 3 less than earlier, the ratio of passers to failures became 21 : 3. The total number of students who initially appeared for the examination was:

1. 162    2. 261    3. 126    4. 216

**Q.6)-**

The given pie chart shows the percentage distribution of a total of 2400 employees in different departments of a company. The given table shows the ratio of male to female employees in the different departments.



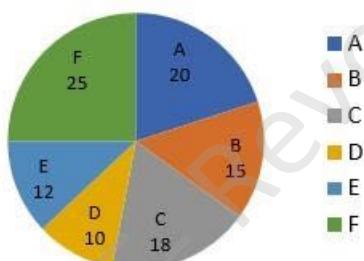
What is the ratio of the number of female employees in the Production Department to that of the male employees in the IT Department?

1. 11 : 9    2. 8 : 15    3. 15 : 8    4. 9 : 11

**Q.7)-**

Study the following pie chart and answer the question that follows.

**Distribution (percentagewise) of the total number of employees  
of a company in its six departments A, B, C, D, E and F**



Number of employees in Department E = 216

The ratio of the number of male to female employees in department C is 4 : 5, and 45% of the employees in department A are males. What is the difference between the number of females in department C and the number of male employees in department A?

1. 12    2. 36    3. 27    4. 18

**Q.8)-**

By selling an article for ₹390, a shopkeeper suffers some loss. Had he sold it for ₹444, he would have earned a profit equal to one-fifth of the loss he had in the earlier case. If he sells it for ₹522, what will be his profit percentage?

1. 15%    2. 12.5%    3. 20%    4. 18.5%

**Q.9)-**

The average of 31 numbers is 78. The average of the first 12 numbers is 75, and the average of the last 14 numbers is 80.5. What is the average of the remaining numbers?

1. 80.4    2. 78.2    3. 79.2    4. 79.5

**Q.10)-**

A number is decreased by 35% then increased by 25% and then further increased by 15%. What is the net percentage increase/decrease in the number (correct to the nearest integer)?

1. 4% increase    2. 7% decrease    3. 16% increase    4. 15% decrease

**Q.11)-**

A can finish a work in 66 days and B can do the same work in two-third of the time taken by A. Working together, what part of the same work can they finish in 12 days?

1.  $\frac{1}{6}$     2.  $\frac{5}{11}$     3.  $\frac{1}{11}$     4.  $\frac{5}{6}$

**Q.12)-**

If the 8-digit number  $7x5739y2$  is divisible by 88, then the largest possible value of  $(4x + 3y)$  is:

1. 54    2. 45    3. 42    4. 51

**Q.13)-**

A's salary is 38% more than that of B's. What percentage (correct to one decimal place) is B's salary less than that of A's?

1. 27.5%    2. 25.7%    3. 26.8%    4. 28.6%

**Q.14)-**

The following chart shows the distribution (percentage wise) of the total number of computers sold by dealers A and B together for 5 months. Study the chart and answer the question:



Total number of computers sold by dealers A and B in March = 576

The ratio of computers sold by dealers A and B in February is 6 : 5. The difference between the number of computers sold by A and B in February is x. The value of x lies between:

1. 65 and 70
2. 60 and 65
3. 55 and 60
4. 70 and 75

**Q.15)-**

The time taken by a boat to travel a certain distance downstream is  $\frac{3}{5}$  of the time taken by it to travel the same distance upstream. The speed of the stream is 4 km/h. How much time (in hours) will it take to travel 18 km downstream and 15 km upstream?

1. 2.15
2. 2.25
3. 2.4
4. 1.8

**Q.16)-**

The average weight of a group of 12 girls is 48 kg. If 2 girls R and S replace P and Q, the new average weight becomes 46 kg. The weight of P = the weight of Q. The weight of R = the weight of S. Another girl T, is included in the group and the new average weight becomes 46 kg. The weight of T = the weight of R. What is the weight of P (in kg)?

1. 56
2. 50
3. 58
4. 54

**Q.17)-**

In  $\triangle ABC$ ,  $\angle A = 66^\circ$ . AB and AC are produced to points D and E, respectively. If the bisectors of  $\angle CBD$  and  $\angle BCE$  meet at point O, then  $\angle BOC$  is equal to:

1.  $57^\circ$
2.  $66^\circ$
3.  $24^\circ$
4.  $123^\circ$

**Q.18)-**

If  $x = \sqrt{2} + 1$  and  $y = \frac{\sqrt{2}}{3}$ , then what is the value of  $(x - 2y - 1)(x^2 + 4y^2 + 2xy - 2x - 2y + 1)$ ?

$$1. \frac{13\sqrt{2}}{9} \quad 2. \frac{38\sqrt{2}}{27} \quad 3. \frac{4\sqrt{2}}{3} \quad 4. \frac{40\sqrt{2}}{27}$$

**Q.19)-**

The value of  $\frac{\sec^2 60^\circ \cos^2 45^\circ + \operatorname{cosec}^2 30^\circ}{\sec^2 45^\circ - \tan 45^\circ}$  is:

1. 6    2.  $3(2 - \sqrt{3})$     3. -6    4.  $3(2 + \sqrt{3})$

**Q.20)-**

The value of  $\frac{0.49 - 0.7 \times 0.9 + 0.81}{0.729 + 0.343}$  is:

1.  $\frac{5}{8}$     2.  $\frac{11}{9}$     3.  $\frac{11}{7}$     4.  $\frac{5}{9}$

**Q.21)-**

Amit earns a profit of 24% by selling an article for ₹167.40. By how much (in ₹) should he increase the selling price of the article to get a profit of 38%?

1. 17.40    2. 19.80    3. 19.20    4. 18.90

**Q.22)-**

A starts walking at 3 km/h. 5 hours after his start, B starts cycling at 8 km/h from the same point from where A started and cycles in the same direction. After how much distance (in km) will B catch up with A?

1. 12    2. 30    3. 20    4. 24

**Q.23)-**

A can complete one-fourth of a work in 2 days and B can complete three-fifth of the same work in 6 days. In how many days will they complete the work if they work together?

1.  $4\frac{4}{9}$     2.  $4\frac{1}{10}$     3.  $2\frac{1}{10}$     4.  $2\frac{5}{18}$

**Q.24)-**

A certain sum amounts to ₹12,096 in 2 years and to ₹12,852 in 3 years at  $x\%$  p.a., interest compounded yearly. What will be the simple interest (in ₹) on a sum of ₹15,000 at  $(x + 4)\%$  p.a. in 5 years?

1. 8,437.50    2. 7,687.50    3. 7,500    4. 7,875

**Q.25)-**

A solid metallic ball of radius 9 cm is melted and recast in to a right circular cylinder of double the radius of the ball. The curved surface area of the cylinder is:

1.  $54\pi \text{ cm}^2$     2.  $72\pi \text{ cm}^2$     3.  $108\pi \text{ cm}^2$     4.  $162\pi \text{ cm}^2$

### Answer key

Q.1	2	Q.2	1	Q.3	1	Q.4	2	Q.5	2
Q.6	3	Q.7	4	Q.8	3	Q.9	2	Q.10	2
Q.11	2	Q.12	4	Q.13	1	Q.14	4	Q.15	1
Q.16	3	Q.17	1	Q.18	2	Q.19	1	Q.20	1
Q.21	4	Q.22	4	Q.23	1	Q.24	2	Q.25	3

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