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## Banking Courses

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## SSC Courses

IB ACIO (Tier I) + SSC Complete KITQ1. The price of sugar is increased by $20 \%$. If the expenditure on sugar has to be kept the same as earlier, the ratio between the reduction in consumption and the original consumption is:
(a) $1: 3$
(b) $1: 4$
(c) $1: 6$
(d) $1: 5$
(e) $2: 5$

Q2. An ore contains $25 \%$ of an alloy that has $90 \%$ iron. Other than this, in the remaining $75 \%$ of the ore, there is no iron. To obtain 60 kg of pure iron, the quantity of the ore needed, in kg , is approximately:
(a) 250.57
(b) 266.67
(c) 275.23
(d) 300
(e) 320.67

Q3. A dishonest trader marks up his goods by $80 \%$ above its original cost price and gives discount of $25 \%$ on mark price. Besides it he gets $20 \%$ more amount per kg from wholesaler and sells $10 \%$ less per kg to customer. What is the overall profit percentage?
(a) $80 \%$
(b) $60 \%$
(c) $70 \%$
(d) $85 \%$
(e) $90 \%$

Q4. How much above the cost price should a man mark his goods so that after allowing a discount of $\mathbf{1 0 \%}$ for cash payment, he may still make a profit of $\mathbf{8 \%}$ ?
(a) $20 \%$
(b) $18 \%$
(c) $28 \%$
(d) $25 \%$
(e) $35 \%$

Q5. The cost of a piece of diamond varies with the square of its weight. A diamond of Rs. 5184 value is cut into 3 pieces whose weights are in the ratio $1: 2: 3$. Find the loss involved in the cutting.
(a) Rs. 3068
(b) Rs. 3088
(c) Rs. 3175
(d) Rs. 3168
(e) None of these


Directions (6-10): What will come in place of the question mark (?) in the following number series?

Q6. 7, 20, 46, 98, 202, (?)
(a) 420
(b) 410
(c) 310
(d) 320
(e) 220

Q7. 210, 209, 213, 186, 202, (?)
(a) 138
(b) 77
(c) 177
(d) 327
(e) 227

Q8. 27, 38, 71, 126, 203, (?)
(a) 212
(b) 202
(c) 301
(d) 312
(e) 302

Q9. 435, 354, 282, 219, 165, (?)
(a) 103
(b) 112
(c) 120
(d) 130
(e) 230

Q10. 4,200, 369, 513, 634, (?)
(a) 788
(b) 715
(c) 734
(d) 755
(e) 855

Directions (11-15): Study the following graph carefully to answer the questions that follow:

Number of students (In thousands) enrolled in three different districts in six different years


Q11. What was percentage increase in enrollment in the number of students in District-R in year 2013 as compared to that of the previous year?
(a) $115.5 \%$
(b) $112.5 \%$
(c) $15.5 \%$
(d) $12.5 \%$
(e) $16.5 \%$

Q12. What was the difference between the number of students enrolled in all the three districts in the year 2014 together and the number of students enrolled in District-Q over all the years together?
(a) 12,000
(b) 11,000
(c) 1,100
(d) 1,400
(e) 16,000

Q13. What was the approximate average number of students enrolled in District-P over all the years together?
(a) 5,999
(b) 5,666
(c) 5,444
(d) 53,333
(e) 43,333


Q14. In which year was the number of students enrolled in all the three districts together second highest?
(a) 2011
(b) 2012
(c) 2014
(d) 2013
(e) 2016

Q15. Total number of students enrolled in the District-P and District -Q together in the year 2016 was what percentage of the total number of students enrolled in District-P in the year 2014?
(a) 150
(b) 120
(c) 250
(d) 220
(e) 240

Directions (16-25): Find the value of the (?) in the following problems.

Q16. $(2 \times 3)^{3} \div(4 \times 9)^{2} \times(27 \times 8)^{2}=(6)^{?}$
(a) 5
(b) 6
(c) 3
(d) 8
(e) 7

Q17. $454.58-376.89+121.45-95.42=$ ?
(a) 102.22
(b) 103.72
(c) 91.72
(d) 92.32
(e) 104.42

Q18. $\sqrt{576} \div(4)^{2} \times 7.4+(7)^{3}-231=$ ?
(a) 123.9
(b) 121.1
(c) 111.4
(d) 122.1
(e) 123.1

Q19. $\left[(84)^{2} \div \mathbf{2 8} \times 12\right] \div 24=7 \times$ ?
(a) 15
(b) 17
(c) 18
(d) 21
(e) 24

Q20. (7.9\% of 134) - (3.4\% of 79) =?
(a) 8.1
(b) 7.9
(c) 8.6
(d) 7.3
(e) 6.8

Q21. $\left[(192)^{2} \div 64 \times 24\right] \div 48=\sqrt{\text { ? }}$
(a) 83000
(b) 82944
(c) 82954
(d) 82950
(e) 82590

Q22. $30 \%$ of $\frac{2}{7}$ of $\frac{2}{9}$ of $\frac{2}{5}$ of $\frac{2}{3}$ of $9450=$ ?
(a) 32
(b) 36
(c) 42
(d) 48
(e) 52

Q23. $\left(\frac{1}{1024}\right)^{\frac{-2}{5}}+\left(\frac{1}{343}\right)^{\frac{-2}{3}}=? \times 5$
(a) 65
(b) 42
(c) 13
(d) 21
(e) 27

Q24. 3.5 \% of $40+3.5 \%$ of $80=$ ? $\%$ of 10
(a) 30
(b) 32
(c) 36
(d) 40
(e) 42


Q25. $1 \frac{7}{9}+2 \frac{5}{3}+3 \frac{1}{9}-4 \frac{1}{5}=$ ?
(a) $2 \frac{13}{45}$
(b) $3 \frac{17}{45}$
(c) $4 \frac{16}{45}$
(d) $4 \frac{17}{45}$
(e) $4 \frac{13}{45}$

Q26. Ravi gave Rs. 1200 on loan in which some amount he gave at $4 \%$ per annum simple interest and remaining at 5\% per annum simple interest. After two years, he got Rs. 110 as total interest. Then the amounts given at $4 \%$ and $5 \%$ per annum are, respectively:
(a) Rs. 500, Rs. 700
(b) Rs. 400, Rs. 800
(c) Rs. 800, Rs. 400
(d) Rs. 700, Rs. 500
(e) None of these

Q27. The total strength of capital Education is 5000 . The number of males and females increases by $8 \%$ and $16 \%$ respectively and strength becomes 5600 . What was the number of males at Capital Education?
(a) 2500
(b) 2000
(c) 3000
(d) 4000
(e) 4500

Q28. In three vessels of 10L capacity, mixture of milk and water is filled. The ratio of milk and water are $2: 1,3: 1$ and $3: 2$ in the respective vessels. If all the three vessels are emptied into a single large vessel, find the ratio of milk and water in the resultant mixture.
(a) $121: 41$
(b) $117: 22$
(c) $121: 59$
(d) $127: 41$
(e) $41: 121$

Q29. ' $A$ ' does half as much work as $B$ in three-fourth of the time. If together they take 18 days to complete a work, how much time shall B take to do it alone?
(a) 30 days
(b) 35 days
(c) 40 days
(d) 45 days
(e) 50 days

Q30. $P$ is thrice as good a workman as $Q$ and therefore became able to finish a job in 48 days less than $Q$. Working together, they can do it in:
(a) 12 days
(b) 24 days
(c) 30 days
(d) 18 days
(e) 16 days

Q31. SBI lent Rs. 1331 lakh to the TATAs group at compound interest and got Rs. 1728 lakh after 3 years. What is the rate of interest charged, if compounded annually?
(a) $11 \%$
(b) $9.09 \%$
(c) $12 \%$
(d) $8.33 \%$
(e) $9.33 \%$

Q32. A milkman buys milk contained in 10 vessels of equal size. If he sells his milk at Rs. 5 a litre, he loses Rs. 200; if he sells it at Rs. 6 a litre, he would gain Rs. 150 on the whole. Find the number of litres contained in each vessel:
(a) 20 L
(b) 30 L
(c) 25 L
(d) 35 L
(e) 40 L

Q33. A trader has 50 kg of rice, a part of which he sells at $10 \%$ profit and the rest at $5 \%$ loss. He gains $7 \%$ on the whole. How much was sold at $10 \%$ gain and how much was sold at $5 \%$ loss?
(a) 40 kg and 15 kg
(b) 30 kg and 10 kg
(c) 35 kg and 40 kg
(d) 40 kg and 10 kg
(e) None of these

Q34. By selling 12 marbles for a rupee, a shopkeeper loses $20 \%$. In order to gain $20 \%$ in the transaction, he should sell the marbles at the rate of how many marbles for a rupee?
(a) 8
(b) 6
(c) 4
(d) 3
(e) 10

Q35. The rates of simple interest in two banks $A$ and $B$ are in the ratio $5: 4$. A person wants to deposit his total savings in these two banks in such a way that he receives equal half yearly interest from both. He should deposit the savings in banks $A$ and $B$ in the ratio:
(a) $2: 5$
(b) $4: 5$
(c) $5: 2$
(d) $5: 4$
(e) $3: 5$

## Solutions

## S1. Ans.(c)

Sol. The raised price $=\frac{120}{100}$ of the former price
$\therefore$ The householder must now consume
$\frac{100}{120}$ of the original amount
Reduction in consumption
$=\left(1-\frac{100}{120}\right)$ of the original consumption $\Rightarrow 1: 6$

## S2. Ans.(b)

Sol. In 4 kg of ore, iron $=0.9 \mathrm{~kg}$
$\therefore$ Quantity of ore for 60 kg of iron
$=\frac{60 \times 4}{0.9}=266.67 \mathrm{~kg}$

## S3. Ans.(a)

Sol. $\mathrm{CP}=\frac{100}{120}=\frac{10}{12}$
(since he purchases 120 g and pays Rs. 100,
By assumption actual CP of $1 \mathrm{~g}=$ Rs. 1)
$\mathrm{SP}=\frac{135}{90}=\frac{3}{2}=\frac{18}{12}$
(Since actual MP = 180, actual SP = 135,
With $25 \%$ discount and he sells only 90 g instead of 100 g )
Profit $(\%)=\frac{\frac{18}{12}-\frac{10}{12}}{\frac{10}{12}} \times 100=80 \%$
S4. Ans.(a)
Sol. $\mathrm{MP}=100, \mathrm{SP}=90$
So, $\mathrm{CP}=\frac{90}{108} \times 100=83.33$
Required percentage
$=\frac{100-83.33}{83.33} \times 100=20 \%$

## S5. Ans.(d)

Sol. If weights of 3 pieces are $x, 2 x, 3 x$
Weight of diamond $=\mathrm{x}+2 \mathrm{x}+3 \mathrm{x}=6 \mathrm{x}$
$(6 x)^{2}=5184 \Rightarrow 36 x^{2}=5184 \Rightarrow \Rightarrow x^{2}=144$
Total weight of 3 prices $=x^{2}+(2 x)^{2}+(3 x)^{2}$
$=x^{2}+4 x^{2}+9 x^{2}=14 x^{2}$
Loss weight in cutting $=36 x^{2}-14 x^{2}=22 x^{2}$
Loss value in cutting $=22 \times 144=$ Rs. 3168

## S6. Ans.(b)

Sol. The pattern of the number series is:

## 75 TOTAL TEST

$7 \times 2+6=20$
$20 \times 2+6=46$
$46 \times 2+6=98$
$98 \times 2+6=202$
$202 \times 2+6=404+6=410$

## S7. Ans. (b)

Sol. The pattern of the number series is:
$210-1^{3}=209$
$209+2^{2}=213$
$213-3^{3}=186$
$186+4^{2}=202$
$202-5^{3}=202-125=77$

## S8. Ans (e)

Sol. The pattern of the number series is:
$27+11=38$
$38+33=71$
$71+55=126$
$126+77=203$
$203+99=302$

S9. Ans. (c)
Sol. The pattern of the number series is:
$435-9 \times 9=354$
$354-9 \times 8=282$
$282-9 \times 7=219$
$219-9 \times 6=165$
$165-9 \times 5=120$

## S10. Ans. (c)

Sol. The pattern of the number series is:
$4+14^{2}=4+196=200$
$200+13^{2}=200+169=369$
$369+12^{2}=369+144=513$
$513+11^{2}=513+121=634$
$634+10^{2}=634+100=734$

## S11. Ans.(d)

Sol. Required percentage increase
$=\frac{9-8}{8} \times 100=\frac{100}{8}=12.5 \%$

## S12. Ans.(a)

Sol. Number of students enrolled in all the three districts in the year 2014
$=(8+6+7)$
$=21$ thousand
Number of students enrolled in District-Q over all the years together
$=(5+4+7+6+4+7)$
$=33$ thousand
$\therefore$ Required difference $=(33-21)$
$=12,000$

## S13. Ans.(b)

Sol. Average number of students enrolled in District-P over all the years together
$=\frac{1}{6} \times(3+5+6+8+7+5)$
$=\frac{1}{6} \times 34$
$\simeq 5.666$ thousands
$\simeq 5666$ (approximately)

## S14. Ans.(c)

Sol. The highest number of students may be in year 2013 or 2014 from the graph.
$\therefore$ Students enrolled in 2013
$=(6+7+9)$
$=22$ thousand
And students enrolled in $2014=(8+6+7)=21$ thousand
$\therefore$ second highest enrolled students are in 2014


## S15. Ans.(a)

Sol. Total number of students enrolled in the year 2016 from district-P and Q
$=(5+7)=12$ thousand
Number of students enrolled in District-P in $2014=8$ thousands
Required percentage $=\frac{12}{8} \times 100$
$=\frac{3}{2} \times 100=150 \%$

## S16. Ans.(a)

Sol. (6) ${ }^{?}=(6)^{3} \div 6^{4} \times 6^{6}$
$\Rightarrow(6)^{?}=6^{3-4+6}$
$\Rightarrow$ ? $=5$

S17. Ans.(b)
Sol. ? $=576.03-472.31$
$=103.72$

## S18. Ans.(e)

Sol. $?=24 \div 16 \times 7.4+343-231$
$=11.1+112$
$=123.1$

## S19. Ans.(c)

Sol. $7 \times ?=\frac{84 \times 84}{28} \times 12 \times \frac{1}{24}$
$?=18$

S20. Ans. (b)
Sol. ? $=\frac{7.9}{100} \times 134-\frac{3.4}{100} \times 79$
$=7.9$

## S21. Ans.(b)

Sol. $\sqrt{?}=\frac{36864}{64} \times 24 \times \frac{1}{48}=288$
$\therefore$ ? $=82944$

S22. Ans.(d)
Sol. ? $=\frac{30}{100} \times \frac{2}{7} \times \frac{2}{9} \times \frac{2}{5} \times \frac{2}{3} \times 9450=48$

## S23. Ans.(c)

Sol. $? \times 5=(4)^{-5 \times \frac{-2}{5}}+(7)^{-3 \times \frac{-2}{3}}$
or, $?=\frac{16+49}{5}=13$

S24. Ans.(e)
Sol. $?=\frac{1.4+2.8}{10} \times 100=42$

S25. Ans.(c)
Sol.
$?=(1+2+3-4)+\left(\frac{7}{9}+\frac{5}{3}+\frac{1}{9}-\frac{1}{5}\right)=2+\frac{106}{45}=4 \frac{16}{45}$

S26. Ans.(a)
Sol. S.I. for one years
$=\frac{110}{2}=55$
$\frac{55}{1200} \times 100=\frac{55}{12} \%$


5: 7
Amount given at 4\% and 5\% are respectively Rs. 500 and Rs. 700.

S27. Ans.(a)
Sol. Average increment
$=\frac{600}{5000} \times 100=12 \%$

(1:1)
No. of males $=\frac{1}{2} \times 5000=2500$

## S28. Ans.(c)

Sol. Quantity of milk: Quantity of water
$=\left(\frac{2}{3}+\frac{3}{4}+\frac{3}{5}\right):\left(\frac{1}{3}+\frac{1}{4}+\frac{2}{5}\right)$
$=121: 59$.

S29. Ans.(a)
Sol. A does half as much work as B in three fourth of the time.
So, If B takes T time for doing x unit work.
So, A doing $\frac{x}{2}$ unit work in $\frac{3 T}{4}$ time.
So, A doing $x$ unit work in $\frac{3 T}{2}$ time
So, $\Rightarrow \frac{1}{T}+\frac{2}{3 T}=\frac{1}{18}$
By solving $\mathrm{T}=30$ days
So, time taken by $B$ alone $=30$ days.

## S30. Ans.(d)

Sol. Ratio of efficiency of P and $\mathrm{Q}=3: 1$
So, Ratio of time by P and $\mathrm{Q}=1: 3$
According to Question $2 x=48$
So, $x=24$
So, $P$ can complete a work in 24 days
$Q$ can complete a work in 72 days
So, work will be finished by both P and Q
Total work $=\operatorname{LCM}(24,72)=72$ unit
P's unit per day $=\frac{72}{24}=3$
Q's unit per day $=\frac{72}{72}=1$
Together they can complete the work in $=\frac{72}{4}=18$ days

## S31. Ans.(b)

Sol. $1728=1331\left(1+\frac{R}{100}\right)^{3}$
$\frac{1728}{1331}=\left(1+\frac{R}{100}\right)^{3}$
$\left(\frac{12}{11}\right)^{3}=\left(1+\frac{R}{100}\right)^{3}$
R = 9.09\%

S32. Ans.(d)
Sol. Let no. of litres contained in each vessel is x 1
$6 \times 10 x-5 \times 10 x=200+150$
$\Rightarrow x=35 l$

## S33. Ans.(d)

Sol.
Part of rice at Part of rice at
10\% Profit


Part of rice at
7\% Profit


## 25 TOTAL TEST

10 FULL LENGHT MOCKS
$\therefore \frac{\text { rice at } 10 \% \text { profit }}{\text { rice at }-5 \% \text { profit }}=\frac{12}{3}$
Or $\frac{\text { rice at } 10 \% \text { profit }}{\text { rice at } 5 \% \text { loss }}=\frac{4}{1}$
$\therefore$ rice at $10 \%$ profit $=\frac{4}{5} \times 50$
$=40 \mathrm{~kg}$
Rice at $5 \%$ loss $=10 \mathrm{~kg}$

## S34. Ans.(a)

Sol. Let shopkeeper should sell $x$ marbles for a rupee
$\therefore \frac{1}{x} \times \frac{100}{120}=\frac{1}{12} \times \frac{100}{80}$
$\Rightarrow x=8$

S35. Ans.(b)
Sol. Let he deposits Rs. x and Rs. y in two banks A and B respectively.
ATQ,
$\frac{x \times 5 \times \frac{1}{2}}{100}=\frac{y \times 4 \times \frac{1}{2}}{100}$
$\Rightarrow \frac{x}{y}=\frac{4}{5}$


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