

1. Consider the following Table:

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Player	Runs scored in the First Inning	Balls faced in the First Inning	Runs scored in the Second Inning	Balls faced in the Second Inning
А	61	99	14	76
В	05	12	50	85
С	15	75	20	50
D	13	55	12	50

Who is the fastest run scorer in the Test Match?

(a) A	(b) B
(c) C	(d) D

Ans: (b)

Explanation:

 Fastest run scorer will be that batsman who has the highest ratio of (runs scored/balls faced) which is also known as Strike rate.

Player	Runs scored in the First Inning	Balls faced in the First Inning	Runs scored in the Second Inning	Balls faced in the Second Inning
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В	05	12	50	85
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D	13	55	12	50

- As we can see clearly in the above table, the strike rate of individual batsman is as follows.
 - Batsman A Runs scored: Balls faced = 75/175 = 0.43
 - Batsman B Runs scored: Balls faced = 55/97 = 0.57
 - Batsman C Runs scored: Balls faced = 35/125 = 0.28
 - Batsman D Runs scored: Balls faced = 25/105 = 0.24
- As we can see from the above calculation, Batsman B have the best ratio. Therefore, option (b) is the correct answer.

- 2. Consider the following multiplication problem: (2021) (PQ) \times 3 = RQQ, where P, Q and R are different digits and R \neq 0. What is the value of (P + R) \div Q?
 - (a) 1
 - (b) 2
 - (c) 5
 - (d) Cannot be determined due to insufficient data

Ans: (b)

Explanation:

- As per the given question: PQ × 3 = RQQ
 - \Rightarrow (10P + Q) × 3 = 100R + 10Q + Q
 - \Rightarrow 30P + 3Q = 100R + 11Q
 - \Rightarrow 30P = 100R + 8Q
- The last digit of 30P will be 0, as well as that of 100R. Therefore, the unit digit of 8Q must also be 0. Hence, the value of Q must be 5. Hence, 30P = 100R + 8Q = 100R + 40
 - \Rightarrow 3P = 10R + 4
- If R = 1, then P = 14/3 (not an integer)
- If R = 2, then P = 24/3 = 8
- If R = 3, then P = 34/3 (not an integer)
- Therefore, P = 8, Q = 5, and R = 2
- Therefore, the given term becomes: 85 × 3 = 255 (i.e., PQ X 3 = RQQ)
- So, (P + R)/Q = (8 + 2)/5 = 10/5 = 2. Therefore, option (b) is the correct answer.
 - **3.** A pie diagram shows the percentage distribution of proteins, water and other dry elements in the human body. Given that proteins correspond to 16% and water corresponds to 70%. If both proteins and the other dry elements correspond to p%, then what is the central angle of the sector representing p on the pie diagram? (2021)

(a) 54°	(b) 96°
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(c) 108° (d) 120°

Ans: (c)

Explanation:

 As per the given data in the question, percentage of Other Dry Elements in the human body ⇒ 100 – (% of Proteins + % of Water) = 100 – (16% + 70%) = 100 – 86 = 14%.

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 The following pie-chart represents the case given in the question:



- Therefore, percentage of both Proteins and Other Dry Elements is 'p' = 16% + 14% = 30%
- In a pie diagram, 100% corresponds to 360°.
- Therefore, 30% will correspond to a central angle of (360/100) × 30 = 108°
- Hence, the central angle of the sector representing 'p' on the pie diagram = 108°. Therefore, option (c) is the correct answer.

Directions for the following 3 (three) items:

The following three items are based on the graph given below which shows imports of three different types of steel over a period of six months of a year. Study the graph and answer the three items that follow.



The figures in the brackets indicate the average cost per ton over six months period.

 By how much (measured in thousands of tons) did the import of sheet steel exceed the import of coil steel in the first three months of the year? (2018)

(a)	11			(b)	15
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(c) 19 (d) 23

Ans: (c)

Explanation:

 To solve this question, we have to subtract the import of coil steel from the import of sheet steel for the first three months.

- On analysing the graph, it can be observed that:
 - Sheet steel imports for the first three months = 40 + 37 + 36 = 113 thousand tons.
 - Likewise, coil steel imports for the first three months
 = 30 + 31 + 33 = 94 thousand tons.
- Thus, the required difference is 113 94, i.e., 19 thousand tons. Therefore, option (c) is the correct answer.
- What was the approximate total value (in \$) of sheet steel imported over the six months period? (2018)

(a) 45,555	(b) 50,555
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(c) 55,550 (d) 65,750

Ans: (c)

Explanation:

- To calculate the total value (in \$) of the sheet steel imported over the six months, first, we need to figure the total sheet steel imported over six months, then to calculate the total value multiply this total sum by the average cost per ton.
- Here, amount of sheet steel imported over six months period = 40 + 37 + 36 + 36 + 34 + 34 = 217 thousand tons.
- Now, total value (in \$) of the sheet steel imported over the six months period = 217 × 256 × 1000 = \$ 55,552,000.
 Therefore, option (c) is the correct answer.
 - What was the approximate ratio of sheet steel and scrap steel imports in the first three months of the year? (2018)

(a) 1:1	(b) 1.2:1
(c) 1.4:1	(d) 1.6:1

Ans: (b)

Explanation:

- To calculate the ratio of sheet steel and scrap steel imported over the year's first three months, we have to divide the amount of sheet steel imported in the first three months by the amount of scrap steel imported in the first three months.
- Amount of sheet steel imported in the first three months = 40 + 37 + 36 = 113 thousand tons
- Amount of scrap steel imported in the first three months = 32 + 34 + 32 = 98 thousand tons
- The ratio of sheet steel and scrap steel imports in the year's first three months = 113/98 = 1.2 : 1. Therefore, option (b) is the correct answer.

Directions for the following 2 (two) items:

Consider the following graph in which the birthrate and death rate of a country are given, and answer the two items that follow.



- Looking at the graph, it can be inferred that from 1990 to 2010 (2018)
 - (a) population growth rate has increased
 - (b) population growth rate has decreased
 - (c) growth rate of population has remained stable
 - (d) population growth rate shows no trend

Ans: (d)

Explanation:

- After analysing the given diagram carefully, we can see that the population growth rate has stabilized after 35 years, as the difference between the birth rate and the death rate has been constant since approximately 2000.
- Thus, we can say that there is no consistent increase or decrease in the population growth rate and also it has not been stable. Hence, the population growth rate shows no trend. Therefore, option (d) is the correct answer.
 - With reference to the above graph, consider the following statements considering 1970 as base year: (2018)
 - 1. Population has stabilized after 35 years.
 - 2. Population growth rate has stabilized after 35 years.
 - 3. Death rate has fallen by 10% in the first 10 years.
 - 4. Birthrate has stabilized after 35 years.

Which of the above are the *most logical and rational statements* that can be made from the above graph?

(a) 1 and 2 only	(b) 1, 2 and 3
(c) 3 and 4	(d) 2 and 4

Ans: (d)

Explanation:

- Statement 1: We can see in the graph that the population growth rate has stabilized after 35 years and not the population, as the difference between the birth rate and the death rate has been constant since around 2000. Hence, it is not correct.
- Statement 2: We can see in the graph that the population growth rate has stabilized after 35 years, as the difference

between the birth rate and the death rate has been constant since around 2000. Hence, it is correct.

- Statement 3: As we can see, the death rate was 25 in 1970, and it decreased to around 20 in 1980, which is around 20% decrease. Hence, it is not correct.
- Statement 4: We can see that birthrate stabilized since around 2000. Therefore, option (d) is the correct answer.
 - Average hourly earnings per year (E) of the workers in a firm are represented in figures A and B as follows: (2018)



From the figures, it is observed that

- (a) values of E are different
- (b) ranges (i.e., the difference between the maximum and the minimum) of E are different
- (c) slopes of the graphs are same
- (d) rates of increase of E are different

Ans: (c)

Explanation:

- As we can see in the figure A:
 - Earning (E) in 2013 = 20 per hour
 - Earning (E) in 2014 = 25 per hour
 - Earning (E) in 2015 = 30 per hour
 - Earning (E) in 2016 = 35 per hour
 - Earning (E) in 2017 = 40 per hour
- And based on figure B, we can see that:
 - Earning (E) in 2013 = 20 per hour
 - Earning (E) in 2014 = 25 per hour
 - Earning (E) in 2015 = 30 per hour
 - Earning (E) in 2016 = 35 per hour
 - Earning (E) in 2017 = 40 per hour
- Option (a): We can see that values of E are the same for both figures. Hence, it is not correct.
- **Option (b):** Ranges of the value of E are also the same for both the figures. Hence, it is not correct.
- **Option (c):** We can clearly see that the slopes of the graph are the same in both the figures as values of E are the same for both the figures. Hence, it is correct.
- Option (d): As it can be seen through the values of E that the rate of increase is the same in both figures. Hence, it is not correct. Therefore, option (c) is the correct answer.

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The manufacturing cost and projected sales for a product are shown in the above figures A and B respectively. What is the minimum number of pieces that should be manufactured to avoid a loss?

(a) 2000	(b) 2500
(c) 3000	(d) 3500

Ans: (a)

Explanation:

- The selling price must be equal to or greater than the cost price to avoid loss; selling price ≥ cost price.
- Thus, the minimum selling price of 2000 pieces will be 2000 x 350 = ₹7 lakhs.
- Hence, the minimum number of pieces to be manufactured will be 2000. Therefore, option (a) is the correct answer.
- Consider the following graphs. The curves in the graphs indicate different age groups in the populations of two countries A and B over a period of few decades: (2018)



With reference to the above graphs, which of the following are the *most logical and rational inferences* that can be made?

- 1. Over the last two and a half decades, the dependency ratio for country B has decreased.
- 2. By the end of next two and a half decades, the dependency ratio of country A will be much less than that of country B.
- In the next two decades, the work-force relative to its total population will increase in country B as compared to country A.

Select the correct answer using the code given below.

- (a) 1 and 2 only (b) 2 and 3 only
- (c) 1 and 3 only (d) 1, 2 and 3

Ans: (c)

Explanation:

- Dependency ratio is the ratio of the non-working population to the working population.
- Statement 1: As seen in the graphs, the dependency ratio for country B has decreased in the last two and half decades as the population has increased. Hence, it is correct.
- Statement 2: Country A's dependency ratio is more than country B's dependency ratio because country B's working population has increased more than the working population of country B. Hence, it is not correct.
- Statement 3: It can be seen that the working population of county B to its overall population has increased more than the working population of country A to its overall population. Hence, it is correct. Therefore, option (c) is the correct answer.
- The graph given below indicates the changes in key policy rates made by the Central Bank several times in a year: (2018)



Which one of the following can be the *most likely reason* for the Central Bank for such an action?

- (a) Encouraging foreign investment
- (b) Increasing the liquidity
- (c) Encouraging both public and private savings
- (d) Anti-inflationary stance

Ans: (d)

Explanation:

- The RBI uses the repo rate to regulate the liquidity and cash flow in the economy. Repo rate is increased to reduce the liquidity from the market to counter rising inflation. Thus, increasing the repo rate can be seen as an antiinflationary measure.
- In the graph, it can be seen that the central bank has constantly raised the repo rate several times in a year. Therefore, option (d) is the correct answer.

Directions for the following 2 (two) items:

The following table gives the GDP growth rate and Tele-density data of different States of a country in a particular year. Study the table and answer the two items that follow.

States	Per Capita Income (\$)	GDP Growth rate (%)	Tele-density
State 1	704	9.52	70.27
State 2	419	5.31	35.88
State 3	254	10.83	50.07
State 4	545	9.78	5.94
State 5	891	10.8	76.12
State 6	1077	11.69	77.5
State 7	900	8.88	104.86
State 8	395	5.92	6
State 9	720	7.76	82.25
State 10	893	9.55	96.7
State 11	363	4.7	57.7
State 12	966	7.85	63.8
State 13	495	9.37	52.3
State 14	864	5.46	97.9
State 15	497	7.48	62.3
State 16	777	7.03	93.8
State 17	335	5.8	49.9
State 18	599	7.49	47.84

- 13. With reference to the above table, which of the following is/are the most logical and rational inference/inferences that can be made? (2018)
 - 1. Higher per capita income is generally associated with higher Tele-density.
 - 2. Higher GDP growth rate always ensures higher per capita income.
 - 3. Higher GDP growth rate does not necessarily ensure higher Tele density.

Select the correct answer using the code given below.

(a)	1 only	(b)	2 and 3
(c)	1 and 3	(d)	3 only

Ans: (c)

Explanation:

- Statement 1: According to the table, except in States 4 and 8, higher per capita income correlates with greater tele density. Hence, it is correct.
- Statement 2: As per the table, State 3 has the lowest per capita income but the second-highest GDP growth rate. This implies higher GDP growth rates do not always guarantee higher per capita income. Hence, it is not correct.
- Statement 3: State 4 has a high GDP growth rate but the lowest Tele-density. It means higher GDP growth does not necessarily ensure higher Tele-density. Hence, it is correct. Therefore, option (c) is the correct answer.
- The following graph indicates the composition of our tax revenue for a period of two decades: (2018)



With reference to the above graph, which of the following is/are the *most logical and rational inference/inferences* that can be made?

- 1. During the given period, the revenue from Direct Taxes as percentage of gross tax revenue has increased while that of Indirect Taxes decreased.
- 2. The trend in the revenue from Excise Duty demonstrates that the growth of manufacturing sector has been during the given period.

Select the correct answer using the code given below.

(b) 2 only

(c) Both 1 and 2 (d) Neither 1 nor 2

Ans: (a)

Explanation:

(a) 1 only

• Statement 1: Corporate and personal income taxes are direct taxes, while excise, custom, and service taxes are

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indirect taxes. Corporate tax and personal income tax revenue increased from 1990-2011, while service tax revenue slightly increased. Thus, it can be inferred that indirect tax revenue as a percentage of gross tax revenue during the given period is decreasing. On the other hand, corporate tax and personal income tax revenues are rising, and corporate tax revenue shows the highest increase. Thus, direct tax revenue as a percentage of overall tax revenue has increased during the given period. Hence, it is correct.

- Statement 2: The graph does not provide any information regarding any sectoral growth of the economy, be it agriculture, manufacturing, or service. So, trends in the growth of the manufacturing sector cannot be substantiated using the given information. Hence, it is not correct. Therefore, option (a) is the correct answer.
- **15.** With reference to the above table, the following assumptions have been made: (2018)

- 1. Nowdays, prosperity of an already high performing State cannot be sustained without making further large investments in its telecom infrastructure.
- Nowadays, a very high Tele-density the most essential condition for promoting the business and economic growth in a State.

Which of the above assumptions is/are valid?

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Ans: (d)

Explanation:

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- Statement 1: In State 4, Tele-density is very low, but the GDP growth rate is high. This implies that this is not a valid assumption. Hence, it is not correct.
- Statement 2: As we can see in the table, the GDP growth rate in State 14 is low, but Tele-density is high. Hence, it is not correct. Therefore, option (d) is the correct answer.

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