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[QUESCODE:42844] [0/1 Mark]

Q.1 Two numbers are in the ratio 2:3 and the difference of their squares is 320. The numbers are

- ☐ 12,18
☒ 16,24
☐ 14,21
☐ None

Explanation: Let numbers be $2x$ and $3x$. Therefore,

$(3x)^2 - (2x)^2 = 320 \therefore 9x^2 - 4x^2 = 320 \therefore 5x^2 = 320 \therefore x^2 = 64 \therefore x = 8 \therefore$ Numbers are
 $\therefore 2x = 2 \times 8 = 16 \therefore 3x = 3 \times 8 = 24$

[QUESCODE:42846] [0/1 Mark]

Q.3 An alloy is to contain copper and zinc in the ratio 9:4. The zinc required to melt with 24 kg of copper is:

- ☒ $10\frac{2}{3}$ kg
☐ $10\frac{1}{3}$ kg
☐ $9\frac{2}{3}$ kg
☐ 9 kg

Explanation: Let the quantity of copper and zinc in an alloy be $9x$ kg and $4x$ kg.

Therefore, $9x = 24 \therefore x = \frac{24}{9} = \frac{8}{3} = 2\frac{2}{3}$ kg. So zinc $= 4x = 4 \times \frac{8}{3}$ kg. $= 10\frac{2}{3}$ kg.

[QUESCODE:42899] [0/1 Mark]

Q.5 On solving $\sqrt{\frac{x}{1-x}} + \sqrt{\frac{1-x}{x}} = 2\frac{1}{6}$, we get one value of x as

- ☒ $\frac{4}{13}$
☐ $\frac{1}{13}$
☐ $\frac{2}{13}$
☐ $\frac{3}{13}$

Explanation:

$$\sqrt{\frac{x}{1-x}} + \sqrt{\frac{1-x}{x}} = 2\frac{1}{6} = \frac{13}{6} \quad \text{Let } \sqrt{\frac{x}{1-x}} = y \quad \text{Then } y + \frac{1}{y} = \frac{13}{6}$$

$$\therefore \frac{y^2 + 1}{y} = \frac{13}{6} \therefore 6y^2 + 6 = 13y \therefore 6y^2 - 13y + 6 = 0 \therefore 6y^2 - 9y - 4y + 6 = 0$$

$$\therefore 3y(2y - 3) - 2(2y - 3) = 0 \therefore (3y - 2)(2y - 3) = 0 \therefore y = \frac{2}{3}, \frac{3}{2} \quad \text{When } y = \frac{2}{3};$$

$$\text{Then } \therefore \sqrt{\frac{x}{1-x}} = \frac{2}{3} \quad \text{Squaring both the sides, } \therefore \frac{x}{1-x} = \frac{4}{9} \therefore 9x = 4 - 4x$$

$$\therefore 13x = 4 \therefore x = \frac{4}{13} \quad \text{When } y = \frac{3}{2}, \text{ Then } \therefore \sqrt{\frac{x}{1-x}} = \frac{3}{2} \quad \text{On squaring both}$$

$$\text{sides, we get } \therefore \frac{x}{1-x} = \frac{9}{4} \therefore 4x = 9 - 9x \therefore 13x = 9 \therefore x = \frac{9}{13}$$

Therefore, as per the given options, $x = \frac{4}{13}$

[QUESCODE:43009] [0/1 Mark]

Q.7 The equation of the straight line through the point of intersection of $X + 2Y - 5 = 0$ and $X - 3Y - 7 = 0$ and passing through the point $(1, 0)$ is

- ☒ $X + 12Y = 1$
☐ $X - 12Y = 1$
☐ $X - 12Y = 11$

[QUESCODE:42845] [0/1 Mark]

Q.2 If $p:q$ is the sub-duplicate ratio of $p - x^2 : q - x^2$, then x^2 is:

- ☐ $\frac{p}{p+q}$
☐ $\frac{q}{p+q}$
☐ $\frac{qp}{p-q}$
☒ None

Explanation: As per the given information:

$$\frac{p-x^2}{q-x^2} = \frac{p^2}{q^2} \therefore q^2(p-x^2) = p^2(q-x^2) \therefore pq^2 - x^2q^2 = p^2q - p^2x^2 \therefore x^2(p^2 - q^2) = pq(p - q)$$

[QUESCODE:42847] [0/1 Mark]

Q.4 $7 \log\left(\frac{16}{15}\right) + 5 \log\left(\frac{25}{24}\right) + 3 \log\left(\frac{81}{80}\right)$ is equal to

- ☐ 0
☐ 1
☒ $\log 2$
☐ $\log 3$

Explanation: $7 \log\left(\frac{16}{15}\right) + 5 \log\left(\frac{25}{24}\right) + 3 \log\left(\frac{81}{80}\right) = 7(\log 16 - \log 15) + 5(\log 25 - \log 24) + 3(\log 81 - \log 80)$
 $= 7[4 \log 2 - (\log 3 + \log 5)] + 5[2 \log 5 - (3 \log 2 + \log 3)] + 3[4 \log 3 - (4 \log 2 + \log 5)]$
 $= 10 \log 5 - 15 \log 2 - 5 \log 3 + 12 \log 3 - 12 \log 2 - 3 \log 5 = \log 2$

[QUESCODE:43008] [0/1 Mark]

Q.6 Find the positive value of k for which the equations: $X^2 + kX + 64 = 0$ and

- ☐ 12
☒ 16
☐ 18
☐ 22

Explanation:

For real roots, discriminant ≥ 0

$$\therefore b^2 - 4ac \geq 0$$

$$\text{for } x^2 + kx + 64 = 0$$

$$\therefore k^2 - 4 \times 1 \times 64 \geq 0 \therefore k^2 - 256 \geq 0$$

$$\therefore k^2 \geq 256 \therefore k \geq 16$$

$$\text{for } x^2 - 8x + k = 0$$

$$\therefore (-8)^2 - 4 \times 1 \times k \geq 0$$

$$\therefore 64 - 4k \geq 0 \therefore 4k \leq 64 \therefore k \leq 16$$

$$\text{Hence, } k = 16$$

[QUESCODE:43011] [0/1 Mark]

Q.8 The difference between the simple and compound interest on a certain Rs.228.75. The compound interest on the sum for 2 years at 5% p.a. is:

- ☐ Rs.3,175
☒ Rs.3,075
☐ Rs.3,275

☐ None

Explanation:

$$x + 2y - 5 = 0 \dots (1) \quad x - 3y - 7 = 0 \dots (2)$$

To get the point of Intersection, solving equation (1) & (2) simultaneously.

$$x + 2y = 5$$

$$x - 3y = 7$$

$$\begin{array}{r} (-)(+) (-) \\ 5y = -2 \end{array} \therefore y = -\frac{2}{5}$$

substituting value of y in (1)

$$\therefore x + 2\left(-\frac{2}{5}\right) = 5 \therefore x = 5 + \frac{4}{5} = \frac{29}{5}$$

Equation of a line passing through the point

$$\left(\frac{29}{5}, -\frac{2}{5}\right) \text{ and } (1, 0) \therefore y - 0 = \frac{-\frac{2}{5} - 0}{\frac{29}{5} - 1} (x - 1)$$

$$\therefore y = -\frac{2}{5} \times \frac{5}{24} (x - 1) \therefore y = -\frac{1}{12} (x - 1)$$

$$\therefore 12y = -x + 1 \therefore x + 12y = 1$$

[QUESCODE:43088] [0/1 Mark]

Q.9 Rs.8,000 becomes Rs.10,000 in two years at simple interest. The amount that will become Rs.6,875 in 3 years at the same rate of interest is

☐ Rs.4,850

☒ Rs.5,000

☐ Rs.5,500

☐ Rs.5,275

Explanation: $A = P \left\{ 1 + \frac{rt}{100} \right\} \therefore 10,000 = 8,000 \left[1 + \frac{r \times 2}{100} \right]$

$$\therefore \frac{10,000}{8,000} = \frac{100 + 2r}{100} \therefore 100 + 2r = \frac{10 \times 100}{8} \therefore 100 + 2r = \frac{10 \times 100}{8} \therefore 2r = 125 - 100$$

$$\therefore r = \frac{25}{2} = 12.5\% p.a. \text{ Let the amount which will become Rs. 6875 be } P. \text{ Then,}$$

$$6,875 = P \left(1 + \frac{12.5 \times 3}{100} \right) \therefore 6,875 = P \left(\frac{100 + 37.5}{100} \right) \therefore P = \frac{6875 \times 100}{1375} \therefore P = \text{Rs.}$$

5,000

[QUESCODE:43090] [0/1 Mark]

Q.11 The present value of an annuity of Rs.3,000 for 15 years at 4.5% p.a. C.I. is [Given that $(1.045)^{15} = 1.935282$]

☐ Rs.23,809.67

☒ Rs.32,218.67

☐ Rs.32,908.67

☐ None of these

Explanation: $P.V = \frac{a}{i} \left[\frac{(1+i)^n - 1}{(1+i)^n} \right] = \frac{3000}{0.045} \left[\frac{(1+0.045)^{15} - 1}{(1+0.045)^{15}} \right]$

=Rs.32,218.67(approx)

[QUESCODE:43092] [0/1 Mark]

Q.13 A code word is to consist of two English alphabets followed by two distinct numbers between 1 and 9. How many such code words are there?

☐ 6,15,800

☒ 46,800

☐ 7,19,500

☐ 4,10,800

Explanation: The number of ways of filling the first two places with English alphabets = $26 \times 25 = 650$ The number of ways of filling the last two places with distinct numbers = $9 \times 8 = 72$ \therefore The number of code words that can be formed are = $650 \times 72 = 46,800$

[QUESCODE:43195] [0/1 Mark]

Q.15 The sum of all natural numbers between 100 and 1000 which are multiple of 5 is

☒ 98,450

☐ 96,450

☐ 97,450

☐ 95,450

Explanation: The required series will be: 105, 110, 115, ... 995. Therefore, last term = 995 $\therefore a + (n-1)d = 995 \therefore 105 + (n-1)5 = 995$

890

☐ Rs.2,975

Explanation: Let the sum be Rs.P $\therefore S.I. = \frac{PRT}{100} \therefore S.I. = \frac{P \times 5 \times 3}{100} = \frac{15P}{100}$
 $= P[(1+0.05)^3 - 1] = 0.157625 \text{ Diff. between } C.I. \text{ and } S.I. = \text{Rs.}228.75 \therefore 0$
 $= 228.75 \therefore 0.007625P = 228.75 \therefore P = \frac{228.75}{0.007625} = \text{Rs.}30,000 \therefore C.I. \text{ on Rs.}30,000$
 $= 30,000[(1+0.05)^2 - 1] = \text{Rs.}3075$

[QUESCODE:43089] [0/1 Mark]

Q.10 Mr.X invests Rs.10,000 every year starting from today for next 10 years; annum compounded annually. Calculated future value of the annuity. (given t

☒ Rs.156454.88

☐ Rs.144865.625

☐ Rs.156554.88

☐ None of these

Explanation: Future value of annuity due = $\frac{a(1+i)}{i} [(1+i)^n - 1] = \frac{10,000}{0.08} [1.15892500^10 - 1] = \text{Rs. } 156454.875 = \text{Rs. } 156454.88(\text{approx})$

[QUESCODE:43091] [0/1 Mark]

Q.12 The number of triangles that can be formed by choosing the vertices fr which lie on the same straight line, is

☒ 185

☐ 175

☐ 115

☐ 105

Explanation: The number of triangles that can be formed a set of 12 points on the same line, therefore no triangle can be formed from these points. i.e., $= {}^{12}C_3 - {}^7C_3 = 220 - 35 = 185$

[QUESCODE:43194] [0/1 Mark]

Q.14 A boy has 3 library tickets and 8 books of his interest in the library. Of Mathematics part-II unless Mathematics part-I is also borrowed? In how many books to be borrowed?

☒ 41

☐ 51

☐ 61

☐ 71

Explanation: There are two cases possible: Case 1: when Mathematics Part-I has also been borrowed). Number of ways = ${}^6C_1 = 6$ way is not borrowed (i.e. 3 books are to be selected out of 7) . Number of ways number of ways = $35 + 6 = 41$ ways.

[QUESCODE:43196] [0/1 Mark]

Q.16 Find n such that $\frac{a_n + 1 + b_n + 1}{a^n + b^n}$ may be the geometric mean between a :

☐ 1/2

☐ 1

☒ -1/2

☐ 0

Explanation:

$$a^{n+1} + b^{n+1} \quad \text{---} \quad a^{n+1} + b^{n+1}$$

$$\therefore (n-1)5 = 995 - 105 \therefore n-1 = \frac{995-105}{5} \therefore n = 178 + 1 = 179 \text{ Sums of the series}$$

$$= \frac{n}{2} [a + l] = \frac{179}{2} [105 + 995] = \frac{179}{2} \times 1100 = 98,450$$

[QUESCODE:43197] [0/1 Mark]

Q.17 If the first term of a G.P exceeds the second term by 2 and the sum to infinity is 50, the series is:

- ☒ 10, 8, $\frac{32}{5}$, ...
- ☐ 10, 8, $\frac{5}{2}$, ...
- ☐ 10, $\frac{10}{3}$, $\frac{10}{9}$, ...
- ☐ None

Explanation: Let the first terms of GP be a , then, its second term $= a - 2$

$$\text{Common ratio ie. } = \frac{a-2}{a} \text{ sum to infinity} = 50 \therefore \frac{a}{1-r} = 50 \therefore \frac{a}{1-\frac{a-2}{a}} = 50$$

$$\therefore \frac{a}{\frac{a-a+2}{a}} = 50 \therefore \frac{a^2}{2} = 50 \therefore a^2 = 100 \therefore a = 10 \therefore r = \frac{10-2}{10} = \frac{8}{10} = \frac{4}{5} \text{ Therefore, the}$$

required series is 10, 8, $\frac{32}{5}$, ...

[QUESCODE:43199] [0/1 Mark]

Q.19 Let $f(x) = \begin{cases} x & \text{when } x > 0 \\ 0 & \text{when } x = 0 \\ -x & \text{when } x < 0 \end{cases}$. Now $f(x)$ is

- ☐ Undefined at $x = 0$
- ☒ Continuous at $x = 0$
- ☐ Discontinuous at $x = 0$
- ☐ None of these

Explanation: R. H. L:

$$\lim_{x \rightarrow 0^+} f(x) \therefore \lim_{x \rightarrow 0^+} x = 0 \text{ L. H. L: } \lim_{x \rightarrow 0^-} f(x) \therefore \lim_{x \rightarrow 0^-} (-x) = 0 \therefore f(0) = 0 \therefore \text{LHL} = \text{RHL} = F(0)$$

Therefore $f(x)$ is continuous at $x = 0$.

[QUESCODE:43201] [0/1 Mark]

Q.21 The derivative of $x^2 \log x$ is:

- ☐ $1 + 2 \log x$
- ☐ $2 \log x$
- ☒ $x(1 + 2 \log x)$
- ☐ None of these

Explanation: $x^2 \log x$: Differentiating both sides w. r. t.

$$x = x^2 \frac{d}{dx} (\log x) + \log x \frac{d}{dx} (x^2) = x^2 + \frac{1}{x} + \log x \cdot 2x = x + 2x \log x = x(1 + 2 \log x)$$

[QUESCODE:43203] [0/1 Mark]

Q.23 The quickest method to collect primary data is

$$\text{G.M. of } a \text{ and } b = \sqrt{ab} \therefore \sqrt{ab} = \sqrt{\frac{a^{n+1} + b^{n+1}}{a^n + b^n}} \text{ (Since G.M. of } x$$

$$\text{and } y \text{ is } \sqrt{xy}) \therefore (ab)^{1/2} = \frac{a^{n+1} + b^{n+1}}{a^n + b^n}$$

$$\therefore a^{1/2} \cdot b^{1/2} = \frac{a^{n+1} + b^{n+1}}{a^n + b^n} \therefore a^{1/2} \cdot b^{1/2} (a^n + b^n) = a^{n+1} + b^{n+1}$$

$$\therefore a^{n+1/2} \cdot b^{1/2} + a^{1/2} \cdot b^{n+1/2} = a^{n+1} + b^{n+1}$$

$$\therefore a^{n+1} - a^{n+1/2} = a^{1/2} \cdot b^{n+1/2} - b^{n+1}$$

$$\therefore a^{n+1/2}(\sqrt{a} - \sqrt{b}) = b^{n+1/2}(\sqrt{a} - \sqrt{b}) \therefore a^{n+1/2} = b^{n+1/2} \therefore \frac{a^{n+1/2}}{b^{n+1/2}} = 1$$

$$\therefore \left(\frac{a}{b}\right)^{n+1/2} = \left(\frac{a}{b}\right)^0 \therefore n + \frac{1}{2} = 0 \text{ [Since When } x^m = x^n \text{ then } m = n]$$

$$\therefore n = -\frac{1}{2}$$

[QUESCODE:43198] [0/1 Mark]

Q.18 Out of 20 members in a family, 11 like to take tea and 14 like coffee. 4 one of the two drinks. Find how many like both coffee and tea.

- ☐ 2
- ☐ 3
- ☐ 4
- ☒ 5

Explanation: Let T : set people who like tea, and C : set of people who like and $n(T \cup C) = 20 \therefore n(T \cup C) = n(T) + n(C) - n(T \cap C) \therefore n(T \cap C) = 11 + 14$

[QUESCODE:43200] [0/1 Mark]

Q.20 The slope of the tangent at the point $(2, -2)$ to the curve $x^2 + xy + y^2 - 4$

- ☐ 0
- ☒ 1
- ☐ -1
- ☐ None

Explanation:

$$x^2 + xy + y^2 - 4 = 0 \text{ Differentiating both sides w. r. t. } x = 2x + x \frac{dy}{dx} + y + 2y \frac{dy}{dx} = 0 \therefore \frac{dy}{dx} (2y + x) = -y - 2x \therefore \frac{dy}{dx} = -\frac{2x+y}{2y+x} \therefore = -\frac{2}{-2} = 1$$

[QUESCODE:43202] [0/1 Mark]

Q.22 $\int \frac{8x_2}{(x^3+2)^3} dx$ is equal to

- ☒ $-\frac{4}{3} (x^3+2)^{-2} + C$
- ☐ $-\frac{4}{3} (x^3+2)^{-2} + C$
- ☐ $\frac{4}{3} (x^3+2)^{-2} + C$
- ☐ None of these

Explanation: $\int \frac{8x_2}{(x^3+2)^3} dx \therefore x^3+2 = t \therefore$ Differentiating both sides w. r. t.

$$x \therefore 3x^2 = \frac{dt}{dx} \therefore 3x^2 dx = dt \therefore x^2 dx = \frac{dt}{3} \therefore \int \frac{8x_2}{(x^3+2)^3} dx = \frac{8}{3} \int \frac{1}{t^3} dt = \frac{8}{3} \int t^{-3} dt \therefore \frac{8}{3} \times \frac{t^{-2}}{-2} + C = -\frac{4}{3} t^{-2} + C = -\frac{4}{3} (x^3+2)^{-2} + C$$

[QUESCODE:43204] [0/1 Mark]

Q.24 Which of the following statement is true?

Which of the following methods is considered primary data collection method?

- ☐ Personal Interview
☐ Indirect Interview
☐ Mailed Questionnaire Method
☒ Telephonic Interview

Explanation:

Telephonic interview method is considered as the quickest method to collect primary data as the relevant information can be gathered by the researchers himself by contacting the interviewer over the phone without any time lag

[QUESCODE:43205] [0/1 Mark]

Q.25 The following data relates to the incomes of 90 persons: Income Rs. 1500-1999, 2000-2499, 2500-2999, 3000-3499. No. of persons: 13, 32, 20, 25. What is the percentage of persons earning more than Rs. 2,500?

☐ 45
☒ 50
☐ 52
☐ 55

Explanation:

No. of persons earning more than Rs. 2500 = 20 + 25 = 45. Therefore, the percentage of persons earning more than Rs. 2500 = $\frac{45}{90} \times 100 = 50\%$.

[QUESCODE:43273] [0/1 Mark]

Q.27 A man travels at a speed of 20 km/hr and then returns at a speed of 30 km/hr. His average speed of the whole journey is

☐ 25 km/hr
☐ 24.5 km/hr
☒ 24 km/hr
☐ None

Explanation: Harmonic mean is the method which is preferred for the computation of average speed. H. M. = $\frac{2ab}{a+b} = \frac{2 \times 20 \times 30}{20+30} = 24 \text{ km/hr}$

[QUESCODE:43275] [0/1 Mark]

Q.29 For a moderately skewed distribution, quartile deviation and the standard deviation are related by

- ☐ $S.D. = \frac{2}{3} Q.D.$
☐ $S.D. = \frac{3}{4} Q.D.$
☐ $S.D. = \frac{4}{3} Q.D.$
☒ $S.D. = \frac{3}{2} Q.D.$

Explanation: As we know in a normal distribution $Q_1 = u + 0.675\sigma$... (1) and $Q_3 = u + 0.675\sigma$... (2) Subtracting (1) from (2) we get

$$\frac{Q_3 - Q_1}{2} = 0.675\sigma \therefore \frac{Q.D.}{0.675} = \sigma \left(\therefore Q.D. = \frac{Q_3 - Q_1}{2} \right) \therefore 1.5 Q.D. = \sigma \therefore S.D. = \frac{3}{2} Q.D. (S.D. = \sigma)$$

[QUESCODE:43277] [0/1 Mark]

Which of the following statements is correct?

- ☐ Statistics is derived from the French word 'Statistik'
☒ Statistics is derived from the Italian word 'Statista'
☐ Statistics is derived from the Latin word 'Statistique'
☐ None of these

Explanation:

According to the history of statistics we can see that one school of thought is from the Italian word 'Statist'.

[QUESCODE:43206] [0/1 Mark]

Q.26 If x and y are related by $x - y - 10 = 0$ and mode of x is known to be 23, the

☐ 20
☒ 13
☐ 3
☐ 23

Explanation:

Mode of x = 23
 $x - y - 10 = 0$
 $y = x - 10$
 Mode of y = Mode of x - 10
 = 23 - 10
 = 13

[QUESCODE:43274] [0/1 Mark]

Q.28 A student obtained the mean and standard deviation of 100 observations. It was later discovered that he had wrongly copied down an observation as 50. The correct mean and standard deviation is

- ☒ 5
☐ 6
☐ 3
☐ 7

Explanation:

$n = 100$ wrong $\bar{x} = 40$ wrong $\sigma = 5.1$ $\bar{x} = \frac{\sum x}{n}$ $40 = \frac{\sum x}{100}$ wrong $\sum x = 40 \times 100 = 4000$ correct $\sum x = 4000 - 50 + 40 = 3990$ $\sigma = \sqrt{\frac{\sum x^2}{n} - (\bar{x})^2}$ $\therefore (\sigma)^2 = \frac{\sum x^2}{100} - (40)^2$ $\therefore (5.1)^2 = \frac{\sum x^2}{100} - 1600$	$\therefore 26.01 = \frac{\sum x^2}{100} - 1600$ $\therefore \frac{\sum x^2}{100} = 26.01 + 1600$ Wrong $\sum x^2 = 162601$ Correct $\sum x^2 = 162601 - (50)^2 + (40)^2 = 161701$ $\therefore \text{correct } \bar{x} = \frac{\text{Correct } \sum x}{n} = \frac{3990}{100} = 39.90$ $\therefore \text{correct } \sigma = \sqrt{\frac{\text{Correct } \sum x^2}{n} - (\bar{x})^2}$ $\therefore \sigma = \sqrt{\frac{161701}{100} - (39.90)^2} = \sqrt{1617.01 - 1592.01} = \sqrt{25} = 5$
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[QUESCODE:43276] [0/1 Mark]

Q.30 The coefficient of correlation r between x and y when: $\text{Cov}(x, y) = -16.5$,

- ☒ -0.97
☐ 0.97
☐ 0.89
☐ -0.89

Explanation: Coefficient of correlation $r = \frac{\text{Cov}(x, y)}{\sigma^x \cdot \sigma^y}$ or $r = \frac{\text{Cov}(x, y)}{\sqrt{\text{var}(x) \cdot \text{var}(y)}}$

[QUESCODE:43278] [0/1 Mark]

Q.31 Take 200 and 150 respectively as the assumed mean for X and Y series of 11 values, then

$$dx = X - 200, dy = Y - 150, \Sigma dx = 13, \Sigma dx^2 = 2667, \Sigma dy = 42, \Sigma dy^2 = 6964, \Sigma dx dy = 3943$$

The value of r is:

- ☐ 0.77
☐ 0.98
☒ 0.92
☐ 0.82

Explanation: As we know $r = \frac{n \Sigma dx dy}{n \Sigma dx^2 - (\Sigma dx)^2} = \frac{\Sigma dx \cdot \Sigma dy}{n \Sigma dx^2 - (\Sigma dx)^2}$

$$r = \frac{11 \times 3943 - 13 \times 42}{\sqrt{11 \times 2667 - (13)^2} \cdot \sqrt{11 \times 6964 - (42)^2}} = 0.92$$

[QUESCODE:43279] [0/1 Mark]

Q.33 There are six slips in a box and numbers 1,1,2,2,3,3 are written on these slips. Two slips are taken at random from the box. The expected values of the sum of numbers on the two slips is.

- ☐ 5
☐ 3
☒ 4
☐ 7

Explanation: Number on the slips:

(1,1), (1,2), (1,3), (2,1), (3,1), (2,2), (2,3), (3,2), (3,3) Sum of Numbers (x_1): 2,3,4,5,6. Probability distribution of sum of Numbers

x_1 : 2,3,4,5,6 $P(x_1)$: $\frac{1}{9}, \frac{2}{9}, \frac{3}{9}, \frac{2}{9}, \frac{1}{9}$ Thus, expected value of sum of numbers

$$E(X) = 2 \times \frac{1}{9} + 3 \times \frac{2}{9} + 4 \times \frac{3}{9} + 5 \times \frac{2}{9} + 6 \times \frac{1}{9} = \frac{36}{9} = 4$$

[QUESCODE:43281] [0/1 Mark]

Q.35 An urn contains 9 balls two of which are red, three blue and four black. Three balls are drawn at random. The probability that they are of same colour is

- ☐ $\frac{3}{27}$
☐ $\frac{20}{31}$
☒ $\frac{5}{84}$
☐ None

Explanation: 3 balls out of 9 can be drawn in ${}^9C_3 = 84$ ways They can be of the same colour in ${}^3C_3 + {}^4C_3 = 1 + 4 = 5$ way (Since either all the balls can be blue or black but not red) \therefore Required Probability = $\frac{5}{84}$

[QUESCODE:43283] [0/1 Mark]

Q.37 Parameter is a characteristic of

- ☒ Population
☐ Sample
☐ Probability distribution
☐ Both (a) & (b)

Explanation:

A parameter is defined as a characteristic of a population based on all the units of the population.

Therefore, parameter is a characteristic of population.

[QUESCODE:43407] [0/1 Mark]

Q.39 The 1.Q.'s of army volunteers in a given year are normally distributed with mean =110 and standard Deviation =10. The army wants to give advance training to 20% of those recruits with the highest scores. What is the lowest 1.Q score acceptable for the advanced training? The value of Z for the area 0.3 =0.84.

- ☐ 0.84
☒ 118.4

Q.32 For some bivariate data, the following results were obtained for the two variables x and

$$y: \bar{x} = 53.2, \bar{y} = 27.9, b_{yx} = 1.5, b_{xy} = -0.2 \text{ the most probable value of } y \text{ when } x = 60 \text{ is}$$

- ☐ 15.6
☐ 13.4
☐ 19.7
☒ 17.7

Explanation: The regression equation of y of x is $y - \bar{y} = b_{yx}(x - \bar{x}) \Leftrightarrow y - 27.9 = 1.5(x - 53.2)$ when $x = 60$ then $y = 107.7 - 1.5x$ when $x = 60$ then $y = 107.7 - 1.5 \times 60 = 17.7$

[QUESCODE:43280] [0/1 Mark]

Q.34 A letter is taken out at random from the word RANGE and another is taken out at random. The probability that they are the same letters is:

- ☐ 1/20
☒ 3/20
☐ 3/5
☐ 3/4

Explanation: Either the letter can be a, g or e . Therefore the probability that

$$= \frac{1}{5} \times \frac{1}{4} + \frac{1}{5} \times \frac{1}{4} + \frac{1}{5} \times \frac{1}{4} = \frac{3}{20}$$

[QUESCODE:43282] [0/1 Mark]

Q.36 A card is drawn from a well shuffled pack of 52 cards. Let E_1 "a king or a queen is drawn" & E_2 "a queen or a jack is drawn", then:

- ☒ E_1 and E_2 are not independent
☐ E_1 and E_2 are mutually exclusive
☐ E_1 and E_2 are independent
☐ None of these

Explanation: $E_1 = a$ king or or a queen is drawn $E_2 = a$ queen or a jack is drawn

$P(E_2) = \frac{4+4}{52} = \frac{8}{52}$ $P(E_1 \cap E_2) = P(\text{drawing a queen}) = \frac{4}{52}$ Here $P(E_1 \cap E_2) \neq P(E_1)P(E_2)$ \therefore not independent

[QUESCODE:43284] [0/1 Mark]

Q.38 What is the probability of making 3 correct guesses in 5 True - False questions?

- ☐ 0.4156
☐ 0.32
☒ 0.3125
☐ 0.5235

Explanation: Here, $p = 0.5, q = 0.5$ (Since the answer can either be True or False) $\therefore P(x=3) = {}^5C_3 (0.5)^3 (0.5)^2 = 0.3125$

[QUESCODE:43409] [0/1 Mark]

Q.40 Sampling fluctuations may be described as

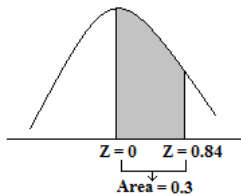
- ☐ The variation in the values of a sample
☐ The differences in the values of a parameter
☒ The variation in the values of a statistic
☐ The variation in the values of observations

Explanation:

- ☐ 138.4
☐ 115.4

Explanation: Let X denote the scores acceptable for advanced training. We assume that X is normally distributed with mean 110 and standard deviation 10 respectively. The value of X for the area $(0.5 - 0.2) = 0.3$ is 0.84 (As given) Let the lowest score acceptable be X_0 . $\therefore P(X < X_0) = 0.84$. $\therefore P\left(\frac{X - 110}{10} < \frac{X_0 - 110}{10}\right) = \phi(0.3)$

$$\therefore P\left(\frac{X_0 - 110}{10} = \phi(0.3)\right) \therefore \phi\left(\frac{X_0 - 110}{10}\right) = \phi(0.3) \therefore \frac{X_0 - 110}{10} = \phi(0.3) \therefore X_0 = 118.4$$



[QUESCODE:43410] [0/1 Mark]

Q.41 A random sample of size 17 has 52 as mean. The variance is 160. The 99% confidence for the mean are

- ☒ [42.77, 61.23]
☐ [44, 58]
☐ [49, 51]
☐ [37, 18]

Explanation:

Given: $S = \sqrt{160} = 12.65$, Mean $\mu = 52$ and sample size ie., $n = 17$

The 99 % LCL to $\mu = \bar{x} - \frac{s}{\sqrt{n-1}} \times t_{0.005, (n-1)}$

$$= 52 - \frac{12.65}{\sqrt{17-1}} \times t_{0.005, (17-1)} = 52 - \frac{12.65}{\sqrt{16}} \times t_{0.005} > 16$$

$$= 52 - \frac{12.65}{4} \times 2.92 = 52 - 9.2345 = 42.77 \text{ The 99 \% UCL to } \mu$$

$$= \bar{x} + \frac{s}{\sqrt{n-1}} t_{0.005, (n-1)} = 52 + \frac{12.65}{4} \times 2.92 = 61.23 \text{ Therefore,}$$

the confidence limits are given by [42.77, 61.23]

[QUESCODE:43412] [0/1 Mark]

Q.43 The number of test of adequacy is

- ☐ 2
☒ 3
☐ 4
☐ 5

Explanation:

Number of Test of Adequacy are 4 which are.

- (a) Unit test
 (b) Time reversal test
 (c) Factor reversal test
 (d) Circular test.

[QUESCODE:44474] [0/1 Mark]

Q.45 If $\left|x + \frac{1}{4}\right| > \frac{7}{4}$, then :

-3

If we compute the value of a statistic say, mean, it is quite natural that the value from sample to sample as the sampling units of one sample may be different. Therefore, sampling fluctuations may be described as the variation in the value.

[QUESCODE:43411] [0/1 Mark]

Q.42 Which sampling provides separate estimates for population means for different estimates?

- ☐ Multistage sampling
☐ Simple random sampling
☐ Systematic sampling
☒ Stratified sampling

Explanation:

Stratified sampling provides separate estimates for population means for different estimates.

[QUESCODE:43413] [0/1 Mark]

Q.44 Suppose a business executive was earning Rs.2,050 in the base period. What would be his salary in the current period if his standard of living is to remain the same? Given $\Sigma W = 25$

- ☐ Rs.2096
☒ Rs.2906
☐ Rs.2106
☐ Rs.2306

Explanation:

$$\text{Cost of Living Index} = \frac{\Sigma IW}{\Sigma W} = \frac{3544}{25} = 141.76 \rightarrow (i)$$

Since the Cost of living Index of the base period is always taken to be 100

\therefore In order to maintain his standard of living, his salary in the current year should be:

Given his salary in the base period = Rs.2050

Cost of living Index from (i) is 141.76

$$\therefore x = \frac{100}{141.76} \times \text{Rs}2050 = \frac{2050 \times 141.76}{100} = \text{Rs}2,906.08 = \text{Rs}2906(\text{approx})$$

[QUESCODE:44476] [0/1 Mark]

Q.46 $\lim_{x \rightarrow 2} \frac{x^n - 2^n}{x - 2} = 80$ and $n \in \mathbb{N}$, then

- ☒ n=5

- ☐ $x < \frac{-3}{2}$ or $x > 2$
☒ $x < -2$ or $x > \frac{3}{2}$
☐ $-2 < x < \frac{3}{2}$
☐ None of these

Explanation:

$$\begin{aligned}
 &|x + \frac{1}{4}| > \frac{7}{4} \\
 &\text{When } |x + \frac{1}{4}| = x + \frac{1}{4} \\
 &\therefore x + \frac{1}{4} > \frac{7}{4} \therefore x > \frac{6}{4} \\
 &\text{ie. } x > \frac{3}{2} \\
 &\text{When } |x + \frac{1}{4}| = -(x + \frac{1}{4}) \\
 &\therefore -(x + \frac{1}{4}) > \frac{7}{4} \\
 &\therefore x + \frac{1}{4} < -\frac{7}{4} \\
 &(\text{Multiplying both sides by } -1) \\
 &\therefore x < -\frac{7}{4} - \frac{1}{4} \therefore x < -\frac{8}{4} \\
 &\text{ie. } x < -2. \\
 &\text{Therefore, } x < -2 \text{ or } x > \frac{3}{2}
 \end{aligned}$$

[QUESCODE:44673] [0/1 Mark]

Q.47 $\int_0^1 (e^x + e^{-x}) dx$ is

- ☐ $e - e^{-1}$
☒ $e^{-1} - e$
☐ $e + e^{-1}$
☐ None

Explanation: $\int_0^1 (e^x + e^{-x}) dx = \left[\frac{e^x}{1} + \frac{e^{-x}}{-1} \right]_0^1 = [e^x - e^{-x}]_0^1 = (e^1 - e^{-1}) - (e^0 - e^{-0}) = (e - e^{-1}) - (1 - 1) = e - e^{-1}$

- ☒ $n=0$
☐ $n=4$
☐ None

Explanation:

$$\begin{aligned}
 &\lim_{x \rightarrow 2} \frac{x^n - 2^n}{x - 2} = 80 \\
 &n \cdot 2^{n-1} \left(\because \lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = n \cdot a^{n-1} \right) \text{ out of given options,} \\
 &n \cdot 2^{n-1} = 80 \text{ is possible only if } n = 5. \therefore n = 5.
 \end{aligned}$$

[QUESCODE:44681] [0/1 Mark]

Q.48 The consumer price index for 2006 on the basis of 2005 from the following data is

Commodities	Quantities consumed in 2005	Price in 2005	Price in 2006
A	6	5.75	6.00
B	6	5.00	8.00
C	1	6.00	9.00
D	6	8.00	10.00
E	4	2.00	1.50
F	1	20.00	15.00

- ☐ 128.77
☐ 108.77
☐ 138.77
☒ 118.77

Explanation:

Comm odities	Quantities Consumed In 2005(Q_0)	Price in 2005 (P_0)	Price in 2006 (P_1)	P_1Q_0	P_0Q_1
A	6	5.75	6.00	36	34.50
B	6	5.00	8.00	48	30.00
C	1	6.00	9.00	9	6.00
D	6	8.00	10.00	60	48.00
E	4	2.00	1.50	6	8.00
F	1	20.00	15.00	15	20.00

[QUESCODE:47870] [0/1 Mark]

Q.49 A bag contains Rs.187 in the form of 1 rupee, 50 paise and 10 paise coins in the ratio 3:4:5. Find the number of each type of coins:

- ☒ 102,136,170
☐ 136,102,170
☐ 170,102,136
☐ None

Explanation:

Let the number of coins be $3x$, $4x$, and $5x$ then,
 $3x + \frac{4x}{2} + \frac{5x}{10} = 187 \Rightarrow 30x + 20x + 5x = 187 \times 10 \Rightarrow 55x = 1870 \Rightarrow x = \frac{1870}{55} = 34$
 Number of coins: \therefore One rupee = $3x = 3 \times 34 = 102$ \therefore 50 paise = $4x = 4 \times 34 = 136$ \therefore 10 paise = $5x = 5 \times 34 = 170$

[QUESCODE:50721] [0/1 Mark]

Q.51 Economics is the study of mankind in the ordinary business of life' was given by:

- ☐ Adam Smith
☐ Lord Robbins
☒ Alfred Marshall
☐ Samuelson

Explanation:

'Economics is the study of mankind in the ordinary business of life' is the welfare definition given Alfred Marshall.

[QUESCODE:50723] [0/1 Mark]

Q.53 Capitalistic Economy uses _____ as principal means of allocating resources.

- ☐ Demand
☐ Supply
☒ Price
☐ All of the above

Explanation:

A capitalistic economy is characterized by absence of state intervention. The economy uses price mechanism (forces of demand and supply) to solve their basic economic problems. Demand and supply both depend upon price and therefore capitalistic economy uses price as principal means of allocating resources.

[QUESCODE:50725] [0/1 Mark]

Q.55 Demand for a commodity refers to :

- ☐ Desire for the commodity
☐ Need for the commodity
☐ Quantity demanded of that commodity
☒ Quantity of the commodity demanded at a certain price during any particular period of time.

Explanation:

Demand for a commodity is always at a certain price and for a particular period of time.

[QUESCODE:50727] [0/1 Mark]

Q.57 _____ shows various combinations of two products that give same amount of satisfaction :

- ☐ ISO cost curve
☒ Indifference curve
☐ Marginal utility curve
☐ ISO quant

Explanation:

An indifference curve shows various combination of two goods which gives the same satisfaction to the consumers.



$$\frac{\sum P_1 Q_0}{\sum P_0 Q_0} = \frac{174}{146.5} \times 100 = 118.77$$

$$\text{Consumer Price Index} = \frac{\sum P_1 Q_0}{\sum P_0 Q_0} \times 100 = \frac{174}{146.5} \times 100 = 118.77$$

[QUESCODE:47871] [0/1 Mark]

Q.50 In 40 litres mixture of glycerin and water, the ratio of glycerin and water in the mixture in order to make this ratio 2:1 is:

- ☐ 15 litres
☐ 10 litres
☐ 8 litres
☒ 5 litres

Explanation: Quantity of glycerine = $40 \times \frac{3}{4} = 30$ litres Quantity of water = 4 be added to the mixture. Then, total quantity of mixture = $(40 + x)$ litres total = $(10 + x)$ litres. So, $\frac{30}{10+x} = 21 \Rightarrow 30 = 20 + 2x \Rightarrow 2x = 10 \Rightarrow x = 5$ litres Therefore to the mixture.

[QUESCODE:50722] [0/1 Mark]

Q.52 The branch of economic theory that deals with the problem of allocation

- ☒ Micro Economics
☐ Macro Economics
☐ Econometrics
☐ None of these

Explanation:

The study of microeconomics deals with how a producer allocates his resources for the optimum utilization of resources.

[QUESCODE:50724] [0/1 Mark]

Q.54 Suppose the price of movies seen at a theatre rises from Rs.120 per person, the theatre manager observed that the rise in prices has led to a fall in attendance from 200 persons. What is the price elasticity of demand for the movie?

- ☐ 0.5
☒ 0.8
☐ 1
☐ none of these

Explanation: Arc elasticity may be expressed as: $\frac{Q_1 - Q_0}{Q_1 + Q_0} \times \frac{P_1 + P_0}{P_1 - P_0} \therefore \frac{300 - 200}{300 + 200} \times \frac{120 + 120}{120 - 120}$ differences were large hence arc elasticity is used.

[QUESCODE:50726] [0/1 Mark]

Q.56 In case of an inferior good, the income elasticity of demand is :

- ☐ Positive
☐ Zero
☒ Negative
☐ Infinite

Explanation:

In case of inferior goods, as the income increases the demand for inferior goods and vice-versa. Hence, inferior goods have a negative income elasticity.

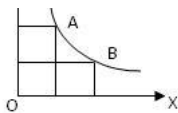
[QUESCODE:50728] [0/1 Mark]

Q.58 Total utility is maximum when :

- ☐ Marginal utility is maximum
☒ Marginal utility is Zero
☐ Average utility is maximum
☐ Average utility is Zero

Explanation:

Total utility will be maximum when marginal utility is zero. When marginal utility starts decreasing.



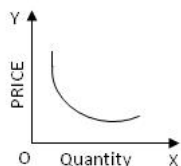
[QUESCODE:50729] [0/1 Mark]

Q.59 An indifference curve is always :

- ☐ Concave to the origin
- ☒ Convex to the origin
- ☐ L-shaped
- ☐ A- vertical straight line

Explanation:

Indifference curve is always convex to the origin due to diminishing marginal rate of substitution.



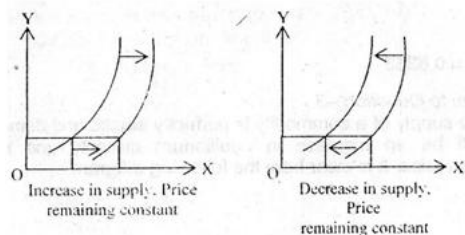
[QUESCODE:50731] [0/1 Mark]

Q.61 Increase or Decrease in Supply means :

- ☒ Shift in supply curve
- ☐ Movement along same supply curve
- ☐ Both (1) and (2)
- ☐ Neither (2) or (3)

Explanation:

When supply of a commodity changes (increases or decreases) due to factors other than its own price, the supply curve shifts.



[QUESCODE:50733] [0/1 Mark]

Q.63 _____ is the banker's bank in India :

- ☐ SBI
- ☐ PNB
- ☒ RBI
- ☐ OBC

Explanation:

Reserve Bank of India is the Banker's Bank in India, as it is the bank of all other commercial banks.

[QUESCODE:50736] [0/1 Mark]

Q.65 When the bank rate increases the demand for loan _____

- ☒ Reduces
- ☐ Increases marginally
- ☐ Remains unchanged
- ☐ Increases drastically

Explanation:

Bank rate is the rate at which central bank discounts the bills of commercial bank. When bank rate increases the commercial bank and general public have to pay a higher rate of interest hence the demand for loans decreases.

[QUESCODE:50738] [0/1 Mark]

Q.67 Nearly _____ percent population is dependent on agriculture presently

[QUESCODE:50730] [0/1 Mark]

Q.60 The supply of a good refers to :

- ☐ Actual production of goods
- ☐ Total stock of goods
- ☐ Stock available for sale
- ☒ Amount of goods offered for sale at a particular price per unit of time

Explanation:

Supply of goods refers to the amount of goods offered for sale at a particular period of time.

[QUESCODE:50732] [0/1 Mark]

Q.62 Which of the following is not an essential condition of pure competition

- ☐ Large number of buyers and sellers
- ☐ Homogeneous product
- ☐ Freedom of entry
- ☒ Absence of transport cost

Explanation:

Pure competition is a part of a perfect competition. The essential conditions

- (a) Large number of buyers and sellers
- (b) Homogeneous product
- (c) Freedom of entry and exit of firms.

[QUESCODE:50734] [0/1 Mark]

Q.64 When of the following is not qualitative credit control measure of the RE

- ☐ Capital rationing
- ☐ Moral suasion
- ☒ SLR
- ☐ Margin requirement

[QUESCODE:50737] [0/1 Mark]

Q.66 Indian accommodates nearly _____ percent of world's population

- ☐ 10
- ☒ 16.7
- ☐ 50
- ☐ 19

Explanation:

India accommodates nearly 17% of the world's population.

[QUESCODE:50739] [0/1 Mark]

Q.68 The Reserve Bank of India was nationalized in _____

Q.67 Nearly _____ percent population is dependent on agriculture presently in India :

- ☐ 72%
☒ 54%
☐ 22%
☐ None of the above

Explanation:

Nearly 54% of the population is dependent on agriculture.

[QUESCODE:50740] [0/1 Mark]

Q.69 The difference between value of output and value added is :

- ☐ Depreciation
☒ Intermediate consumption
☐ Net indirect taxes
☐ NFIA

Explanation:

Value added is the value added by the intermediate goods to produce a product. Therefore, the difference between value of output and value added is intermediate consumption.

[QUESCODE:50742] [0/1 Mark]

Q.71 India accommodated nearly _____ percent of world's populations :

- ☐ 10
☐ 50
☒ 17
☐ 45

Explanation:

India accommodates nearly 17% of the world's population.

[QUESCODE:50744] [0/1 Mark]

Q.73 Employment Guarantee Scheme was launched in :

- ☐ 1999
☐ 2000
☐ 1995
☒ 2006

Explanation:

Employment Guarantee Scheme was launched in 2006.

[QUESCODE:50746] [0/1 Mark]

Q.75 Occupational structure refers to :

- ☒ Distribution of working force among the different occupations
☐ The nature of different occupations
☐ Size of working force in a country
☐ Number of people living in a country

Explanation:

Occupational Structure refers to distribution of working force among the different occupations.

[QUESCODE:50748] [0/1 Mark]

Q.77 Hydel power contributes _____ of the total power generation :

- ☐ 10%
☒ 14.5%
☐ 20%
☐ 25%

Explanation:

Hydel power contributes 15% of the total power generation.

[QUESCODE:50750] [0/1 Mark]

Q.79 NLM stands for :

Q.68 The Reserve Bank of India was nationalized in :

- ☐ 1947
☐ 1948
☒ 1949
☐ 1950

Explanation:

The Reserve Bank of India was nationalized in 1949.

[QUESCODE:50741] [0/1 Mark]

Q.70 Which of the following is an Indirect Tax :

- ☒ Value Added Tax
☐ Gift Tax
☐ Wealth Tax
☐ Income Tax

Explanation:

Value Added Tax is a tax on different stages of production. It is an indirect tax on different people.

[QUESCODE:50743] [0/1 Mark]

Q.72 Increase in population can be caused by :

- ☐ High birth rate
☐ Low death rate
☐ Immigration
☒ All of the above

Explanation:

Increase in population can be caused by :

- (a) High birth rate
 (b) Low death rate
 (c) Immigration

[QUESCODE:50745] [0/1 Mark]

Q.74 _____ are often used for measuring poverty in relative sense :

- ☐ HDI
☒ Gini co-efficient
☐ Planning Commission
☐ All of the above

Explanation:

Poverty in relative sense is measured by Gini-co-efficients. Gini co-efficient that of 1 indicates perfect inequality.

[QUESCODE:50747] [0/1 Mark]

Q.76 Employment assurance scheme and Jawahar Gram samridhi Yojna h _____ :

- ☐ NFFWP
☒ SGRY
☐ SGSY
☐ IAY

Explanation:

Employment Assurance Scheme (EAS) and Jawahar Gram Samridhi Yojana Sampoorna Grameen Rozgar Yojana (SGRY) launched in 2001.

[QUESCODE:50749] [0/1 Mark]

Q.78 Presently _____ of the villages are electrified :

- ☐ 56%
☐ 66%
☐ 76%
☒ 86%

Explanation:

Presently 86% of the village are electrified.

[QUESCODE:50751] [0/1 Mark]

Q.80 When prices are falling continuously, the phenomenon is called :

- ☐ National Leprosy Mission
- ☐ National Logistic Mission
- ✓ ☐ National Literacy Mission
- ☐ National Law Mission

Explanation:

NLM Stands for National Literacy Mission.

[QUESCODE:50752] [0/1 Mark]

Q.81 _____ is the difference between total receipts and total expenditure :

- ☐ Fiscal Deficit
- ✓ ☐ Budget Deficit
- ☐ Revenue Deficit
- ☐ Capital Deficit

Explanation:

A budget is a statement of total receipts and payments. The difference between total receipts and total expenditure is called Budget Deficit. $BUDGET\ DEFICIT = TOTAL\ EXPENDITURE - TOTAL\ RECEIPTS$

[QUESCODE:50754] [0/1 Mark]

Q.83 _____ is a systematic record of all the economic transaction between one country and rest of the world :

- ☐ Balance of Trade
- ☐ Balance of Transaction
- ☐ Budget
- ✓ ☐ Balance of payments

Explanation:

Balance of Payment is a systematic record of all the economic transaction between the two countries. It includes transfer of visible as well as invisible items.

[QUESCODE:50756] [0/1 Mark]

Q.85 Quantitative restriction on _____ items were removed in the EXIM policy of 2000-01.

- ☐ 123
- ☐ 193
- ✓ ☐ 715
- ☐ 183

Explanation:

Quantitative restrictions on 714 items were removed in the EXIM policy of 2000-01. Whereas restrictions on 715 items were removed from the EXIM policy of 2001-02.

[QUESCODE:50758] [0/1 Mark]

Q.87 FDI means:

- ☐ Forex direct investment
- ☐ Foreign deregulated investment
- ✓ ☐ Foreign direct investmnet
- ☐ Forex deregulated investment

Explanation:

FDI means Foreign direct investment.

[QUESCODE:50760] [0/1 Mark]

Q.89 Broad money refers to _____ :

- ☐ M_1
- ☐ M_2
- ✓ ☐ M_3
- ☐ M_4

Explanation: $M_3 = M_1 + \text{Time deposits of the public with banks}$ called broad money. Deposits of public with bank is called broad money.

[QUESCODE:50762] [0/1 Mark]

Q.91 For maximum profit, the condition is :

- ☐ $AR = AC$
- ✓ ☐ $MR = MC$
- ☐ $MR = MR$

- ☐ Inflation
- ☐ Stagflation
- ✓ ☐ Deflation
- ☐ Reflation

Explanation:

When the prices are falling continuously the phenomenon is called Deflation

[QUESCODE:50753] [0/1 Mark]

Q.82 Revenue deficit in India is :

- ☐ Positive
- ✓ ☐ Negative
- ☐ Zero
- ☐ Balanced

Explanation:

Revenue deficit is created when there is excess of revenue expenditure over deficit is negative.

[QUESCODE:50755] [0/1 Mark]

Q.84 FERA stands for :

- ☐ Foreign exchange resource act
- ✓ ☐ Fund exchange resources act
- ☐ Foreign exchange regulation act
- ☐ Finance and export regulation association

Explanation:

FERA stands for Foreign Exchange Regulation Act.

[QUESCODE:50757] [0/1 Mark]

Q.86 _____ refers to relaxation of produce government restriction on economic policies :

- ☐ Privatization
- ☐ Globalization
- ☐ Disinvestment
- ✓ ☐ Liberalization

Explanation:

Liberalization refer to relaxation of government policies and restrictions.

[QUESCODE:50759] [0/1 Mark]

Q.88 IMF was organized in _____ :

- ✓ ☐ 1946
- ☐ 1956
- ☐ 1966
- ☐ 1976

Explanation:

IMF (International Monetary Fund) was organized in 1946.

[QUESCODE:50761] [0/1 Mark]

Q.90 The number of banks nationalized in 1969 was :

- ☐ 8
- ☐ 10
- ✓ ☐ 14
- ☐ 16

Explanation:

In 1969, 14 banks were nationalized.

[QUESCODE:50763] [0/1 Mark]

Q.92 _____ shows the overall output generated at a given level of ir

- ☐ Cost function
- ✓ ☐ Production function
- ☐ Iso cost

☐ MC = AC

Explanation:

Profit maximization level of a firm is the level at which its marginal revenue is equal to marginal cost. The condition for maximum profit is : $MC = MR$.

[QUESCODE:50764] [0/1 Mark]

Q.93 If LAC curve falls as output expands, this is due to _____ :

- ☐ Law of diminishing returns
- ✓ ☒ Economics of scale
- ☐ Law of variable proportion
- ☐ Dis-economics of scale

Explanation:

In the long run, when output expands total cost first increases, then becomes constant and finally decreases. When output expands, and cost curve falls it is the first stage of returns to scale which occurs due to economics of scale.

[QUESCODE:50766] [0/1 Mark]

Q.95 Opportunity cost is :

- ☐ Direct cost
- ☐ Total cost
- ☐ Accounting cost
- ✓ ☒ Cost of foregone opportunity

Explanation:

Opportunity cost is the cost of the next best alternative forgone. It's the cost of foregone opportunity.

[QUESCODE:50768] [0/1 Mark]

Q.97 A competitive firm in the short run incurs losses. The firm continues production, if :

- ☐ $P > AVC$
- ☐ $P = AVC$
- ☐ $P < AVC$
- ✓ ☒ $P \geq AVC$

Explanation:

In short run if the competitive firm is incurring losses than it will continue production only if its price is greater or equal to average variable cost. If price is less than variable cost it means neither the fixed cost nor the variable cost can be covered. In such a situation, the produce shall stop production.

[QUESCODE:51590] [0/1 Mark]

Q.99 Under which of the following market structure AR of the firm will be equal to MR?

- ☐ Monopoly
- ☐ Monopolistic competition
- ☐ Oligopoly
- ✓ ☒ perfect competition

Explanation:

In perfect competition firms are price taker. Hence they offer same price i.e. the price are same throughout the market. Since the prices are same or the AR and MR are also equal.

☐ Marginal rate of technical substitution

Explanation:

Production function states the relationship between inputs and outputs generated.

[QUESCODE:50765] [0/1 Mark]

Q.94 Isoquants are equal to :

- ✓ ☒ Product lines
- ☐ Total utility lines
- ☐ Cost lines
- ☐ Revenue lines

Explanation:

An isoquant consists of alternative combinations of input to produce a given quantity of output, representing various combinations of factors of production to produce a given quantity of output.

[QUESCODE:50767] [0/1 Mark]

Q.96 As output increases, average fixed cost :

- ☐ Remains constant
- ✓ ☒ Starts falling
- ☐ Starts rising
- ☐ None

Explanation:

Fixed cost always remains fixed. It does not increase with an increase in output as more and more units are produced as the fixed cost remains the same.

Average fixed cost is expressed as : $AFC = \frac{\text{Fixed Cost}}{\text{No. of units produced}}$.

[QUESCODE:50769] [0/1 Mark]

Q.98 Under _____ market condition, firms make normal profits in the long run.

- ✓ ☒ Perfect competition
- ☐ Monopoly
- ☐ Oligopoly
- ☐ None of above

Explanation:

Perfect competitive market is characterized by free entry and exit of firms. In the long run, more sellers enter the industry and hence the profits are reduced to the equilibrium level. More firms leave the industry resulting into increase in profits to the equilibrium level. Firms always incur normal profits.

[QUESCODE:64834] [0/1 Mark]

Q.100 Broad Money refers to _____ :

- ☐ M_1
- ☐ M_2
- ✓ ☒ M_3
- ☐ M_4

Explanation: $M_3 = M_1 + \text{Time deposits of the public with banks} + \text{broad bank deposits}$ is called broad money.