## REASONING ABILITY

**Directions (1-5):** Study the information carefully and answer the questions given below.

Certain number of persons are sitting around a circular table, which has a circumference of 546 cm. All the persons are facing towards the center. They are sitting at distances to each other which are consecutive multiple of six. A is 3rd to the left of I. Two persons are sitting between K and I. M is immediate right to L. H sits to the left of G at a distance of 72 cm. The distance between A and D is 18 cm. The number of persons sitting between J and B is same as between B and F. The distance between E and F is LCM of 6 and 5. Neither M nor L is neighbor of K and H. The number of persons sitting between C and I is same as between I and E. The distance between K and I is not more than 162cm. Either C or E is neighbor of K.

**1.** Which of the following represents the distance between B and F?
(a) 144      (b) 72      (c) 99
(d) 108      (e) none of these

**2.** Who among the following are immediate neighbor of J?
(a) K, L      (b) G, A      (c) H, M
(d) F, D      (e) none of these

**3.** Who among the following sits 4th to the right of the one who is 6th to the left of A?
(a) K      (b) G      (c) H
(d) D      (e) none of these

**4.** Which of the following represents the distance between H and L?
(a) 144      (b) 180      (c) 345
(d) 108      (e) none of these

**5.** Four of the following belongs to a group find the one that does not belong to that group?
(a) B, C      (b) M, J      (c) I, D
(d) K, E      (e) L, M

**6.** **Statement** "Beware! Recycled coloured plastic bags contain harmful colour pigments, which on coming in contact with food particles, make food unfit for consumption, resulting in severe food poison, allergies and in extreme cases even death." –A scientist.
**Assumptions**
i. Non-biodegradability nature makes plastic bags an environmental hazard.
ii. Use of recycled coloured plastic bags is harmful and has cascading effects on human life
(a) Only (i)
(b) Both (ii) and (ii)
(c) Only (ii)
(d) Either (i) or (ii)
(e) None of these

**7.** It has been reported in recent years that a very large number of seats in the engineering colleges in the country remain vacant at the end of the admission session.
Which of the following may be the probable cause of the above effect?
(a) There has been a considerable decrease in hiring of engineering graduates due to economic slowdown in the recent years
(b) Students have always preferred to complete graduation in three years time instead of four years for engineering
(c) The Government has recently decided to provide post qualification professional training to all engineering graduates at its own cost
(d) There has always been a very poor success rate among the engineering students
(e) None of the above

**8.** The condition of the roads in the city has deteriorated considerably during the first two months of monsoon and most of the roads have developed big pot holes.
Which of the following can be a possible effect of the above cause?
(a) The municipal corporation had repaired all the roads in the city before onset of monsoon with good quality material
(b) A large number of people have developed spine related injuries after regularly commuting long distances by road within the city
(c) The municipal corporation has been careful in choosing the contractors for repairing roads in the past
(d) People always complain about potholed roads during the monsoon months
(e) None of the above

**Direction (9-13):** Study the information carefully and answer the questions given below.

There is 3*5 matrix which can produce signals which in turn help in the illumination of some bulbs. The row of the matrix are denoted by @, % and # from bottom to top and the columns are denoted by the alphabets A, B, C D and E from left to right.

**@** row contains number which are consecutive multiple of 7, staring from 28 (from left to right).

**%** row contains number which are consecutive multiple of 11, starting from 11 (from left to right).

**#** row contains number which are consecutive multiple of 13, starting from 13 (from left to right).

The matrix helps in producing signals which can be either a single string of number X- or two-line string X and Y.

There are 4 lights P, Q, R and S. Based on the outcome of the strings mentioned above one of the light blinks.

**Condition for blink:**
1. If the outcome is below 85, then P will blink
2. If outcome range is 85-110, then Q blinks
3. If outcome range is 111-210, then R blinks
4. If outcome is greater than 210, then S blinks

**For outcome of the string:**
1. If the string has all even numbers, then outcome of the string is obtained by adding all the numbers.
2. If an odd number is followed by an even number then the one's places of all the two-digit numbers are deleted and, tenth place are multiplied to get the outcome
3. If the string contains 2 prime number, then the tenth's place is deleted from each of the two-digit number and remaining number are multiplied.
4. If no above logic is followed, then simple outcome is addition of the numbers.

**9.** If x =#C %D #A #E, then which bulb blink?
(a) S        (b) Q        (c) P
(d) R        (e) Either R or S

**10.** If X = @A @C #D %B, then which bulb blink?
(a) S        (b) Q        (c) P
(d) R        (e) Either P or Q

**11.** If X = #A%E %A @B, then which bulb blink?
(a) S        (b) Q        (c) P
(d) R        (e) Either P or Q

**12.** If X =@A#B@D%C, then which bulb blink?
(a) S        (b) Q        (c) P
(d) R        (e) Either R or S

**13.** If X = @E#D@D#E, then which bulb blink?
(a) S        (b) Q        (c) P
(d) R        (e) Either R or S

**Direction (14-18):** In the following questions, the symbols #, &, @ and $ are used with the following meanings as illustrated below. Study the following information and answer the given questions:
**Note:** The directions which are given indicates exact directions.
P#Q - P is in the south direction of Q.
P@Q - P is in the north direction of Q.
P&Q - P is in the east direction of Q.
P$Q - P is in the west direction of Q.
P£QS- P is the mid-point of QS vertically.
Note- For southeast direction it used to be written as P#&Q and so on…
When it is given that the Car honks once then it will be considered as the car taken a left turn and if it is given as the car honks twice then it will be considered as the car takes a right turn.
Point S is &15m of point B. Point J is @33m of point S. Point K is @25m of point B. Point L is $20m of point K. Point Q is #40m of point L. Point F is &40m point Q. Point E£DF. Point D is @30m of Point F.

**14.** What distance the car has to travel from point D to reach the airplane which is parked at point J?
(a) 22m        (b) 50 m        (c) 43 m
(d) 23m        (e) 35m

**15.** What could the possible shortest route to reach point K from point J?
(a) Started in east till 15km, honks once, cover 8km
(b)Started in west till 15km, honks twice, cover 8km
(c) Started in south till 25km, honks once, cover 8km
(d) Started in north till 5km, honks once, cover 8km
(e) Started in west till 15km, honks once, cover 8km

**16.** Point D is in which direction from point Q?
(a) #        (b) @$        (c) #$
(d) @&        (e) #&

**17.** If Point U is #15m of point B then which of the following is the position of U with respect to F?
(a) @, 24m        (b) $, 25 m        (c) #, 15 m
(d) $, 20m        (e) None of these

**18.** Point E is in which direction from point B?
(a) #        (b) @        (c) $
(d) &        (e) #&

**Directions (19-23):** Study the following information carefully to answer the given questions:

There are six employees A, B, C, D, E, F of a company and all of them are working on six different designation of a company viz. CMD, MD, CEO, COO, SE, JE. All the designations given are to be considered in a given order (as CMD is considered as Senior-most and JE is considered as the Junior-most). Only two persons are senior than A. The one who is junior than only one person likes Litchi. The one

who likes Mango is senior than B. F likes Guava and is junior than B. B does not like Litchi. C is senior to the one who likes Kiwi. The one who likes Kiwi is not JE. The one who is JE neither likes Banana nor Grapes. D does not like Litchi and also is not SE. E does not like Kiwi and is junior than C but senior than F. D is junior than the one who likes Banana. C is not junior than the one who likes Grapes. The one who likes Kiwi is just junior than D. A does not like Banana. The one who likes Grapes is senior than the one who likes Mango.

19. Who among the following is JE of the company?
    (a) C          (b) A          (c) B
    (d) D          (e) F

20. Who among the following likes Grapes?
    (a) E          (b) C          (c) A
    (d) B          (e) E

21. How many persons are junior than B?
    (a) One        (b) Two        (c) Three
    (d) More than three          (e) None of these

22. The one who is CMD like which among the following fruit?
    (a) Guava      (b) Mango      (c) Kiwi
    (d) Grapes     (e) Banana

23. Who among the following is just junior than A?
    (a) E          (b) C          (c) F
    (d) B          (e) E

**Directions (24-28):** Study the following information carefully and answer the questions given below.

Six persons J, L, R, O, X, Z of a family born in six different years 1978, 1982, 1995, 1997, 2013 and 2015. (All the ages of the given persons have been calculated on base year 2018 and all the persons are considered to be born on same date of same month). There is a difference of 18 years between the ages of O and J. O is the father of J. L is younger than R. X is not the oldest person of the family. R is not married to Z. Z was born in an even numbered year. L is the only granddaughter of the mother of O. Father of O is 4 years older than O's mother. J is the son of R.

24. How is L related to X?
    (a) grand father
    (b) grand mother
    (c) grand daughter
    (d) grand son
    (e) none of these

25. Who among the following born in 1982?
    (a) O          (b) R          (c) X
    (d) J          (e) L

26. R was born in which of the following year?
    (a) 1997       (b) 2015       (c) 2013
    (d) 1982       (e) None of these

27. How is R related to Z?
    (a) Daughter-in-law
    (b) mother
    (c) aunt
    (d) Daughter
    (e) none of these

28. Four of the five are alike in a certain way and hence form a group, which among the following does not belong to the group?
    (a) O          (b) R          (c) X
    (d) J          (e) L

**Directions (29-31):** Study the given information carefully and answer the given questions.

Ten persons are sitting in two parallel rows. P, Q, R, S, T are sitting in row-1 facing north while K, L, M, N, O are sitting in row-2 faces south.
I. P sits second to the right of Q. O sits immediate left of M. O does not sit opposite to S and Q.
II. Only one person sit between L and M. L does not sit opposite to R and S. K sits opposite to T.
III. P does not sit opposite to L and O. N sits second to the right of K. R does not sit at extreme left end. Only two persons sit between S and P.

Each of the questions below, consist of a question and three statements numbered I, II and III. You have to decide whether the data provided in the statements are sufficient to answer the question.
(a) If the data in statement I and II together are sufficient to answer the question, while the data in statement III are not required to answer the question.
(b) If the data in statement I and III together are sufficient to answer the question, while the data in statement II are not required to answer the question.
(c) If the data in statement II and III are sufficient to answer the question, while the data in statement I are not required to answer the question.
(d) If the data in all three statements I, II and III together are necessary to answer the question.
(e) If the data in all the statements, I, II and III even together are not sufficient to answer the question.
(Read the three statements and Give answer)

29. Who among the following sit opposite to L?

30. How many persons are sitting between R and S?

31. Who among the following sit at extreme right end of row-2?

32. Disaster management systems can safeguard India's heritage from climate changes. India is a signatory to the 2015 Sendai Framework for Disaster Risk Reduction, which recognizes that the State has the primary role in reducing disaster risk, terrorism related issues and identifies heritage as a priority area.
    Which of the following negates the given statement?

(I) The authority's report also has detailed guidelines for museums on the systems that need to be put in place to tackle different kinds of threats.

(II) The first-of-its-kind analysis by the National Disaster Management Authority (NDMA) of the threats shows that India's museums face lists terrorism; climate-related events such as floods, earthquakes and tsunamis; and vandalism.

(III) Climate-related issues such as floods, earthquakes are not a matter of concern for Indian Heritage.

(a) Only (III)  (b) Only (II)  (c) Only (I)
(d) Both (II) and (III)  (e) None of these

**Direction (33-37):** Study the following information carefully and answer the given questions:

In coded language
"tradition festival iconic" is coded as – '8X 9J 6XJ'
"aesthetic recreate vibe" is coded as – '8E 9VJ 4W'
"creative emerging shine" is coded as – '8NO 5K 8C'

33. What can be the code of 'during autumn'?
    (a) 6M 7FN  (b) 6M 6FN  (c) 6K 6FN
    (d) 6K 6EM  (e) None of these

34. What can be the code of 'Impulse Response'?
    (a) 7NT 7F  (b) 8T 7NR  (c) 8F 7MT
    (d) 7NT 8F  (e) None of these

35. What can be the code of 'Vibrant Ocean'?
    (a) 5XB 7J  (b) 5XB 7K  (c) 5XZ 7M
    (d) 5YB 7K  (e) None of these

36. What can be the code of 'Ideal Journey'?
    (a) 5WC 7T  (b) 5FB 7T  (c) 5WC 7V
    (d) 5FB 7V  (e) 5WB 7T

37. What can be the code of 'Enough Rise'?
    (a) 6NF 4F  (b) 6MH 4F  (c) 6MF 4D
    (d) 6MH 4H  (e) None of these

**Direction (38-39):** In each of the following questions, two statements numbered I and II are given. There may be cause and effect relationship between the two statements. These two statements may be the effect of the same cause or independent causes. These statements may be independent causes without having any relationship. Read both the statements in each question and mark your answer as-

(a) If statements I is the cause and statement II is its effect.
(b) If statements II is the cause and statement I is its effect.
(c) If both the statements I and II are independent causes.
(d) If both the statements I and II are effects of independent causes.
(e) If both the statements I and II are effects of some common cause.

38. **Statement I-**Infosys, among India's largest software services companies, said it plans to hire 10,000 American workers over the next two years.
    **Statement II-**In filling these jobs, Infosys will hire experienced technology professionals and recent graduates from major universities, and local and community colleges, and the talent pools will be created in the future.

39. **Statement I-** Aadhar has become mandatory for filing income tax returns with PAN card.
    **Statement II-**PAN has become more and more susceptible to duplicity and fraud.

40. **Statement-** According to the latest research-"Few people openly admit to holding racist beliefs on the basis of color but many psychologists claim most of us are nonetheless unintentionally racist. We hold, what are called "implicit biases".
    One the basis of the information provided in the above statement, which of the following defines the term "implicit bias" most accurately?
    (i) A slight automatic preference for white people over black people.
    (ii) Preference for white people over black people.
    (iii) Discriminating against a particular community on the basis of colour.
    (a) Only (i)
    (b) Both (ii) and (iii)
    (c) Only (ii)
    (d) Only (iii)
    (e) None of these.

**Directions (41-45):** Study the information carefully and answer the questions given below.

There are fifteen people live on different floors in the given three building X, Y and Z such that each of the floor of the building is occupied by the given person. **Building X is immediate west of building Y, which is immediate west to building Z. In the** building ground floor is numbered as 1, above it is floor 2 and so on... In the building floor-1 of building Y is immediate east of floor-1 of building X but immediate west of floor-1 of building Z and so on..

**Note: A is west to B does not mean A is immediate west to B. Above or below does not mean in the same building.**

N lives to the west of L on 3rd floor. M is immediate west to I. K is immediate east to E. A lives on the top floor of the building such that none of the person lives above A in any of the building. The number of floors between J and H is same as between H and I. I lives below J. The one who is either immediate above or immediate below N is immediate left to B. Two persons live between B and M. M lives in the same building as B. B does not live in the same building as J. **Building** Z has more number of floor than **building** Y but less than **building** X. H is not in the same building as L. Two persons live between D and C. F live to the west of G. D lives above O, but in the same building. D does not live on the even number floor.

**41.** How many persons are living above B in the same building?
(a) Two  (b) One  (c) Three
(d) Four  (e) None

**42.** Who among the following lives to the immediate east of F?
(a) L  (b) J  (c) H
(d) B  (e) A

**43.** Which of the following true regarding O?
(a) Lives in the same building as L
(b) lives on 2nd floor

(c) lives to the west of G
(d) all are true
(e) none is true

**44.** On which of the following floor does C live?
(a) 3rd  (b) 1st  (c) 2nd
(d) 4th  (e) none of follows

**45.** Who among the following lives just above N in the same building?
(a) L  (b) F  (c) H
(d) B  (e) A

## QUANTITATIVE APTITUDE

**Direction (46-50):** The given bar graph shows the percentage of query resolved by three people Abhi, Bindu and Chintu on Monday and Friday with respect to total calls received by them.
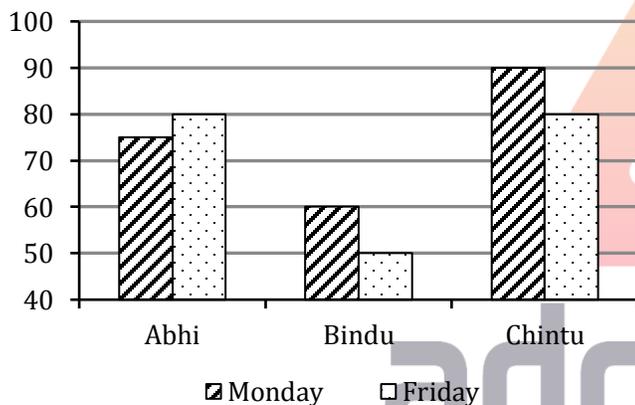


☑ Monday  ☐ Friday

**46.** No. of query resolved by Abhi and Chintu on Friday is 360. What could be maximum number of calls that were not resolved by Abhi on Friday?
(a) 89  (b) 40  (c) 12
(d) 100  (e) None of these

**47.** Number of queries resolved by Bindu on Monday is 180 and call received by him is 25% more than query resolved by Abhi on that day. Find the number of calls received by Abhi on Monday.
(a) 260  (b) 440  (c) 360
(d) 400  (e) 320

**48.** If 20% calls increased from Monday to Friday for Bindu and Chintu and average number of query resolved by them on Friday is 30 more than that of Monday. Find call received by Chintu on Friday is how much more than that of received on Monday by him.
(a) 125  (b) 220  (c) 120
(d) 200  (e) 250

**49.** What is the ratio of calls received by Abhi, Bindu and Chintu on Friday. If the number of query resolved by them is in the ratio of 3:4:2.
(a) 12:33:19  (b) 14:32:11  (c) 15:32:10
(d) 10:35:12  (e) 8:7:9

**50.** Query resolved by Chintu on Monday is 60% of the query resolved by him on Friday. Query resolved by Abhi on Friday is equal to the sum of the query resolved by Chintu on both days. Call received by Abhi on Friday is what % more than that of Chintu on Monday.
(a) 100%  (b) 200%  (c) 250%
(d) 300%  (e) 120%

**51.** Total number of balls in a bag, which contains Pink and Green ball only, is 16. What is the number of Pink ball?
(A) Probability of drawing a pink ball P(P) < 0.1875
(B) Probability of drawing two green ball P(G) < 1-P(P)
(C) Difference between no. of pink balls and Green balls is 12.

(a) Only statement 'A' alone is sufficient to answer the question
(b) Both statement A and statement C are required to answer the question.
(c) Only statement 'C' alone is sufficient to answer the question
(d) Either statement A or statement C is sufficient to answer
(e) All three together are sufficient to answer the question

**52.** What is the speed of stream?
(A) Sum of time taken by a boat in upstream and downstream is 27 hours to cover distance 270 km in each.
(B) Speed of boat in downstream is 45 km/h.

(D) Boat cover 90 km in 7 hr, while rowing in upstream
(a) Either A and B or B and C are sufficient to answer the question
(b) Either A and B or A and C are sufficient to answer the question
(c) Either A and C or B and C are sufficient to answer the question
(d) Any two statements are sufficient to answer the question
(e) Either only A or B and C together are sufficient to answer the question
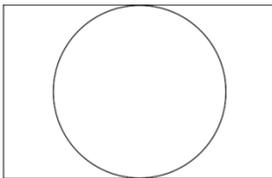
**53.** Is b < a?
(a) $b = \frac{1}{a^{-5}}$
(b) a < 0
(c) |b| > |a|

(a) Either A and B or B and C are sufficient to answer the question
(b) Either A and B or A and C are sufficient to answer the question
(c) Either A and C or B and C are sufficient to answer the question
(d) Any two statements are sufficient to answer the question
(e) Only A and B are sufficient to answer the question

**54.** Quantity I: Unit digit of the number $[(1333)^{27}]^{55}$.
Quantity II: Unit digit of the number $[(127)^{43}]^{52}$.
(a) Quantity I > Quantity II
(b) Quantity I < Quantity II
(c) Quantity I ≥ Quantity II
(d) Quantity I ≤ Quantity II
(e) Quantity I = Quantity II or No relation

**55.** Quantity I: Area of circle, given in figure, is half of the area of rectangle. Value of percent by which length of rectangle is more than breadth.



Quantity 2: A pair of opposite sides of a square when increase by 10cm, then area of figure increased by 400 cm². Value of percent by which area increased.
(a) Quantity I > Quantity II
(b) Quantity I < Quantity II
(c) Quantity I ≥ Quantity II
(d) Quantity I ≤ Quantity II
(e) Quantity I = Quantity II or No relation

**56.** If P, Q and R are natural number, then value of PQ = R + Q =?
(a) P+R=8+Q
(b) $Q^2 = \frac{R^2}{P+1}$
(c) Q = P+2

(a) Either A and B or B and C are sufficient to answer the question
(b) Either A and B or A and C are sufficient to answer the question
(c) Either A and C or B and C are sufficient to answer the question
(d) Any two statements are sufficient to answer the question
(e) Either only A or B and C together are sufficient to answer the question

**57.** What is the profit percent earned on selling 2 books and 1 pen?
**A.** Cost price of 3 books is equal to selling price of 4 pens. Profit earned on selling 2 pens is equal to the profit earned on selling one book. Profit earned on selling 4 pens is 50% of their cost price.
**B.** Profit earned on selling 2 books and 6 pens is 50% which is equal to 500% of the cost price of one pen.
**C.** Profit earned on selling one book is 100% of the cost price of the one pen.
(a) Either A or B and C are sufficient to answer the question
(b) Either A and B or A and C are sufficient to answer the question
(c) Either A and C or B and C are sufficient to answer the question
(d) A, B and C together are sufficient to answer the question
(e) Only statement A is sufficient to answer.

**Direction (58-62):** Certain number of people work in retail, online and door to door stores. There are only three type stores and each people works in one or more store. 72% of people were in retail store and people working in only door to door store was $\frac{1}{36}$ th of people working in retail store. Number of people working in both door to door store and online store but not in retail store are 55. People working in only online store are 65 more than the people working in only door to door store. Number of people working in only retail store is $\frac{160}{3}$% more than number of people working in online store.

**58.** What is the number of people who works in retail store, but not only in retail store?
(a) 225 (b) 245 (c) 115
(d) 105 (e) 75

**59.** What is the total number of people working in all stores?
(a) 360      (b) 300      (c) 250
(d) 400      (e) 500

**60.** What is the number of people working in online store only?
(a) 65      (b) 55      (c) 75
(d) 80      (e) 15

**61.** If number of people working in retail and online but not in door to door are 105 then what % of people are there, who work both in retail and door to door stores?
(a) 28%      (b) 14%      (c) 35%
(d) 49%      (e) 56%

**62.** Number of people working in retail or online store is what percent of people working in only online or only in retail?
(a) $205\frac{15}{17}\%$      (b) $246\frac{17}{19}\%$      (c) $229\frac{09}{13}\%$
(d) $257\frac{17}{19}\%$      (e) $217\frac{13}{17}\%$

**Direction (63-66):** Given bar shows the % range of commission earned on all sold articles and commission earned by five stores in Rupees.

| Stores | Range of commission (%) | Commission earned Ruppes |
|--------|------------------------|--------------------------|
| A | 0-16 | 32000 |
| B | 16-32 | — |
| C | — | 35000 |
| D | — | — |
| E | 0-20 | 40000 |

Note:- Commission percent is on selling price.
Note:- Some values are missing, you have to calculate them according to question.
Note:- Range of commission are in integral values.

**63.** Store 'A' sells 480 articles of only 3 types of articles it have, their number are in ratio 1 : 2 : 3 and their selling prices are 800, 600 and 400 respectively and commission charged on them have difference of 1 percent in sequence (least number of articles sold have least commission percent) respectively, then find the highest commission% of articles.
(a) 11.375%      (b) 12.375%      (c) 13.375%
(d) 15.375%      (e) None of these

**64.** Store C sells 3 products in equal numbers (105) and equal commission percent. If there selling price (in Rs.) are 200, 300 and 400. Then what is the commission percent.
(a) $\frac{1200}{27}\%$      (b) $\frac{900}{27}\%$      (c) $\frac{1150}{27}\%$
(d) $\frac{1000}{27}\%$      (e) $\frac{1040}{27}\%$

**65.** Store D sold 3 articles each in number 100 and each have S.P. of Rs. 800 and commission % for each is in A.P. with common difference of 5. If total commission earned by store D is $14\frac{2}{7}\%$ more than that of store C. Find the minimum range of commission %?
(a) (11 – 22)      (b) (16- 23)      (c) (05- 08)
(d) (14 – 24)      (e) (07 – 10)

**66.** If store C have only one type article and number of article and its S.P is equal which is (≥ 100 & < 110) then find the % range of commission?
(a) (275 – 300)      (b) (340 – 377)      (c) (174 – 268)
(d) (294 – 350)      (e) (280 – 366)

**Direction (67-69):** Population of two villages X and Z are 16,000 and 12,800 respectively. Ratio of population of village X to that of Y is 4 : 5. Three manufacturers, A, B and C supply cycles in these three villages. These manufactures manufactured cycles in the ratio of 22: 19 : 20 (A : B : C) by assuming that each person will buy one cycle and 60%, 75% and 80% of the cycles manufactured by A, B and C respectively are sold and selling price of each cycle is Rs. 8,000.

(i) Supply $= \frac{Revenue}{Selling\ price\ of\ a\ cycle}$

(ii) Demand % $= \frac{Number\ of\ cycles\ ordered\ by\ customers}{Toal\ number\ of\ cycles\ remainded\ with\ manufacturer} \times 100$

(iii) Revenue = 8000 × number of cycles supplied

Use the above information to answer the following questions.

**67.** What is the revenue generated from village Y, if each person of village X and Z purchased a cycle?
(a) 8.424 crore      (b) 4.768 crore      (c) 6.348 crore
(d) 9.00 crore      (e) 10.246 crore

**68.** What is the profit earned by manufacture C from village X, if total revenue earned by all three manufacturers in village X is 9.6 crore and number of cycles supply by all of them are equal and cost price of each cycle is 6000?
(a) 90 lakh      (b) 50 lakh      (c) 75 lakh
(d) 80 lakh      (e) 43 lakh

**69.** On a particular day, there was a demand of 50% for manufacturer A and 10 % for manufacturer C from an another village M which they delivered on the same day. Find that total revenue earned by these two manufacturer together is approximately what percent of their manufacturing cost? Given that manufacturing cost of a cycle is Rs. 6000.
(a) 95%      (b) 90%      (c) 107%
(d) 120%      (e) 113%

**Direction (70-74)-** Study the given bar-graph carefully and answer the following question.
Bar graph given below shows the expenditure of Rahul in four different years.
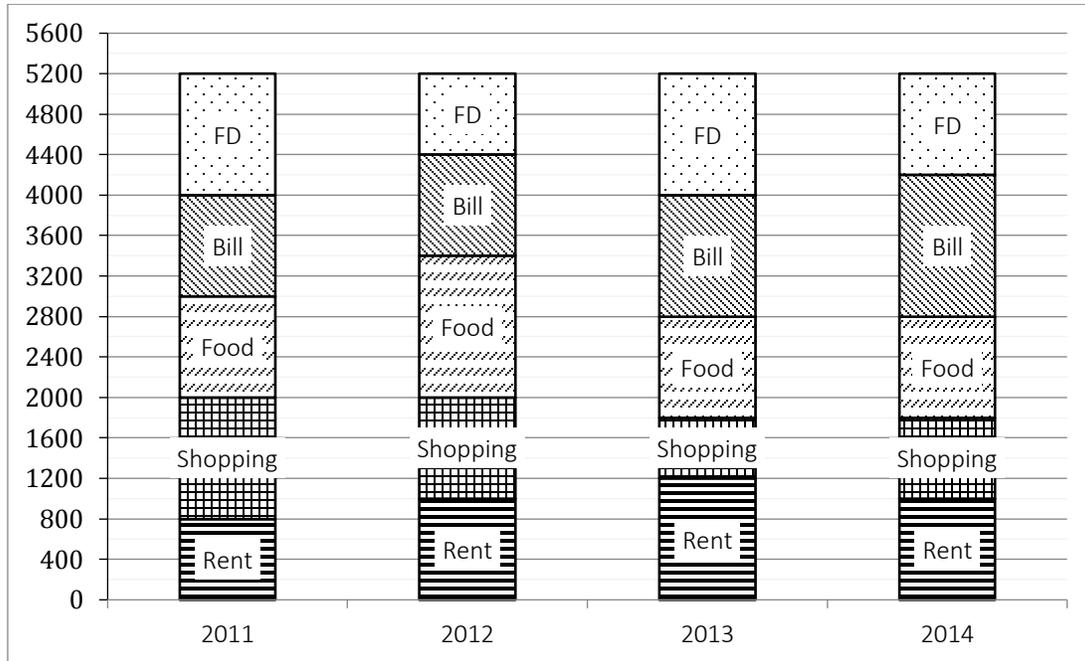


70. If bill paid by Rahul in year 2015 is 25% more than the average bill paid by him in year 2013 and 2014 and amount paid by him in FD in 2015 is twice the amount paid by him in FD in year 2011. Then find difference in amount of bill and FD paid by Rahul in year 2015 ?
(a) Rs. 775     (b) Rs. 725     (c) None of these
(d) Rs. 875     (e) Rs. 920

71. Total amount paid by Rahul on Food in year 2011 and 2012 together is what percent more or less than total amount paid by him on shopping in same year together ?
(a) $14\frac{2}{7}$%     (b) None of these     (c) $11\frac{1}{9}$%
(d) $9\frac{1}{11}$%     (e) 12 ½%

72. If amount paid by Rahul in year 2010 on Rent is one-fifth of rent paid by him in all years. Then find ratio of rent paid by him in 2010 to amount paid by him on shopping in 2012 ?
(a) 2 : 3     (b) 4 : 5     (c) 3 : 5
(d) 2 : 5     (e) None of these

73. If ratio of amount paid on bills in year 2015 to that of in year 2013 is 3 : 2 and ratio of amount paid by him on food, bills and rent in year 2015 is 1 : 2 : 4. Then find difference in amount paid by him on rent and food in year 2015 ?
(a) None of these     (b) Rs 1200     (c) Rs 900
(d) Rs 1800     (e) Rs 2700

74. Average of amount paid by Rahul in FD, rent and food in year 2012 is what percent of average of amount paid by him on Shopping, Rent and Bill in year 2013 ?

(a) 123 ⅔%     (b) 106 ⅔%     (c) None of these
(d) 112 ⅓%     (e) 108%

75. 8 men and 4 women together can complete a piece of work in 6 days. Work done by a man in one day is double the work done by a woman in one day. 8 men and 4 women started working and after 2 days, 4 men left and 4 new women joined the work.
**Quantity I:** More days required to complete the work
**Quantity II:** 5 days
(a) Quantity I = Quantity II or No relation
(b) Quantity I ≥ Quantity II
(c) Quantity I < Quantity II
(d) Quantity I ≤ Quantity II
(e) Quantity I > Quantity II

76. X started from a point A towards point B. After 2 hours. Y started from B towards A. By the time X travelled one-fifth of the total distance, Y had also travelled the same. Y's speed is thrice of that of X's speed.
**Quantity I:** Difference in time (in hours) taken by X and Y to reach their respective destinations.
**Quantity II:** 12 hours
(a) Quantity I = Quantity II or No relation
(b) Quantity I ≤ Quantity II
(c) Quantity I ≥ Quantity II
(d) Quantity I < Quantity II
(e) Quantity I > Quantity II

77. A vessel contains 2.5 litres of water and 10 litres of milk. 20% of the contents of the vessel are removed. To the remaining contents, x litres of water is added to reverse the ratio of water and milk. Then y litres of milk is added again to reverse the ratio of water and milk.

**Quantity I:** Value of 'y'
**Quantity II:** Value of 'x'
(a) Quantity I = Quantity II or No relation
(b) Quantity I ≤ Quantity II
(c) Quantity I ≥ Quantity II
(d) Quantity I < Quantity II
(e) Quantity I > Quantity II

**Direction (78-80):** Study the given passage carefully and answer the questions.

Rahul, Sandy and Sati invested in ratio 2 : 3 : 4. After 4 months Sandy added Rs. 1500 more in his investment and Rahul withdrew Rs. 800 from his investment. After six months more Sati added to his investment an amount equal to half of the investment done by Rahul in first four months and Sandy invested 50% more than the investment done by Sati in first 10 months whereas Rahul added to his investment an amount that is equal to investment done by Sandy in first four months. Ratio of profit of Sati to total profit at the end of year is given as 125 : 376.

**78.** Profit of Sandy is approximately what percent of total profit?

(a) 64%  (b) 48%  (c) 72%

(d) 68%  (e) 42%

**79.** What is the difference between profit share of Rahul and Sandy if total profit is Rs.37,600?

(a) 12,000  (b) 16,400  (c) 18,500

(d) 22,900  (e) 20,000

**80.** Veer have 250% more than initial investment of Sati for a year. Find total interest earned by him if he invested his amount in a scheme which offers 20% p.a. compound interest for 2 years?

(a) Rs. 140  (b) Rs. 1500  (c) Rs. 1540

(d) Rs.1600  (e) Rs.1640

## ENGLISH LANGUAGE

**Directions (81-88):** Read the following passage carefully and answer the questions given below it. Certain parts are given in bold to answer some of the questions based on the passage.

We all are aware of the fact that nothing is permanent in this world, neither products nor technology. As day by day, improvements and updations are made in technology, leading to new inventions and innovations in every sphere of life. Invention refers to the creation of a brand new product or device. Conversely, innovation is an act of making changes to the existing product or the process by introducing new ways or ideas. At first sight, the two terms sound alike, but if you dig deeper, you will find that there is a fine line of difference between invention and innovation that lies in their connotations. While invention is all about creating or designing something, innovation is the process of turning a creative idea into reality. **[A] There is often a fine line between genius and insanity.** Innovation is not only important on the individual level, but can make or break a business as well.

Innovative businesses create dynamic products, adjust existing services, and/or implement new ideas. **[B] They are not afraid to color outside the lines and try something new, even if it is risky.** If a business is not innovative, they risk losing work to competitors. Lack of innovation also has indirect results such as losing staff and decreasing engagement. Therefore, innovation cannot be an afterthought, but rather a crucial element that is included in part of your strategy. It should be a cultural outlook that impacts thinking and improves problem solving. Many successful companies attribute their success to their innovative practices. That said, inventing and innovation are not one in the same. Invention focuses on creating new items or new ways to produce existing items. Very often, invention is a result of innovation, but it is not a requirement. Although invention can be beneficial to a business, the level of importance and necessity can vary according to the industry.

**[C] The era of invention is not over, but they have definitely been pushed aside for an era of innovation**. While many people are still out there trying to come up with the next "big invention" that is going to improve humanity, businesses have discovered that innovation seems to not only trump invention in furthering a company's brand and profitability, but it can be far cheaper when all the framework is already completed. This can be seen from many major businesses that choose to innovate rather than invent, such as Apple and Sony. First, we must distinguish the difference between invention and innovation. Invention is the creation of a product or introduction of a new process, for example the Alternating Current induction motor is an invention created in 1888. An innovation occurs when someone improves on or makes a significant contribution to an item or process that has already been invented; the Apple iPhone is an innovation of the cell phone. It seems that great inventors are smaller in number – perhaps business models are leaning towards enabling innovation.

Sony's influence in the technology market started with the invention of the first tape recorder, and through years of creativity and perseverance, became innovators of a variety of categories, from computing and electronics to entertainment. Sony shows corporations that for a business to thrive in today's market, a company cannot stay stagnant with on particular item – innovations are essential.

Innovation drives economic growth. Five combination patterns are what create innovation. These are,
the production of a new good, a new method of production, a new market, acquiring a new source of raw minerals and the emergence of a new organization. **[D] A company does not need to invent to have a competitive edge in the market, but need to innovate and create a product that is based on the needs and desires of the consumer.**

81. With what example has the author described 'innovation' as a change that can even prove to be economically lucrative?
    (a) Since innovation is coming up with a fresh idea, it leads to research and development department of the organization.
    (b) Innovation is a result of invention and hence is economically feasible too.
    (c) It focuses on creating new items or new ways to produce existing items.
    (d) Innovation can make or break a business as well.
    (e) Innovation results in boosting up of economy as an idea for a product or process that has never been made before is highlighted.

82. How is innovation a crucial element that its absence impacts business strategy?
    (a) As the companies are destined to fail in its absence because of the stagnant growth.
    (b) Competitors could avail benefits over not so innovative businesses.
    (c) The lack of innovation has secondary impacts such as losing staff and decreasing engagement.
    (d) Both (a) and (b)
    (e) Both (b) and (c)

83. Which of the following statement/s infers that an era of invention has not been dissipated but instead pushed aside by that of innovation?
    (a) Innovation outclasses invention in enhancing a company's brand's name and profit.
    (b) Innovation is far cheaper than invention when all the framework is completed.
    (c) As business models are leading towards enabling new inventions which require scientific skills.
    (d) Both (a) and (b)
    (e) Both (b) and (c)

84. "Sony chose to innovate rather than invent". How has this helped its business to grow?
    (a) Sony made a significant contribution to the item by inventing products according to the needs of the consumer.
    (b) Sony needs to invent to have a competitive edge in the market.
    (c) Innovation helped Sony against staying stagnant with one item.
    (d) Business models like Sony are leaning towards enabling invention which has helped businesses to grow.
    (e) All of these.

85. What can be illustrated from statement [A] "**There is often a fine line between genius and insanity**."
    (a) One should be careful while innovating as a successful innovation can build a business while a failure can destabilize the business.
    (b) Genius and insane innovations cannot be separated through a thin line of difference.
    (c) Genius innovations can turn into insane outcomes if they fall within the line.
    (d) Insane innovations provide a line to develop genius innovations.
    (e) None of these

86. What can be inferred from statement [B] **"They are not afraid to color outside the lines and try something new, even if it is risky"**?
    (a) Businessmen innovates every colorful product even though it is risky for their enterprise.
    (b) Businessmen do not analysis the pros and cons while developing the new innovation.
    (c) Businessmen are ready to think or act in a way that does not conform to set rules even though it is quite risky for the business.
    (d) Businessmen set their minds to break the rules required to introduce a new innovation.
    (e) None of these

87. Statement [C] **"The era of invention is not over, but they have definitely been pushed aside for an era of innovation"** in the passage may not be grammatically or contextually correct. Choose the most suitable alternative that will replace the statement to adhere to the grammatical syntax of the paragraph.
    (a) The era of invention is not over, but it has definitely been pushed aside to an era of innovation.
    (b) The era of invention is not over, but it has definitely been pushed aside for an era of innovation.
    (c) The eras of invention is not over, but they have definitely been pushed aside for an eras of innovation.
    (d) The era of invention is not over, but they had definitely been pushed aside for an era of innovation.
    (e) None of these

**88.** According to the author, in reference with the statement [D] "**A company does not need to invent to have a competitive edge in the market, but need to innovate and create a product that is based on the needs and desires of the consumer",** what should be the criteria for innovation?

(a) Profits
(b) Market trends
(c) Competition
(d) Customer satisfaction
(e) None of these

**Directions (89-95):** Read the following passage carefully and answer the questions given below it. Certain words are given in bold to help you locate them while answering some of the questions.

Compounding the **woes** for the solar power industry, Maharashtra's appellate authority for advance ruling (AAAR) has held that solar power projects are liable to 18% goods and services tax (GST) and not at the lower rate of 5% as claimed by power producers. With the appellate authority reinforcing similar rulings by some other state level authority for advance ruling including of Rajasthan and Maharashtra, this issue seems to be headed for a **prolonged** legal battle unless the government decides to step in and issue clarifications on the taxability of solar power projects. **[A] A rise in project cost could get reflected in the power tariffs that solar power developers offer in auctions to win projects**. With electricity out of the goods and services tax (GST), the higher tax rate becomes an outright cost for the producers thus inflating the final price of the solar power. A government proposal to levy safeguard duty on imported solar panels that is meant to support domestic panel manufacturers is another factor that has brought some uncertainty to solar power project developers.

Solar power generation panels, which constitute around 60-70% of the cost of the solar power projects, are taxed at 5% GST. However, the AAARs have held that setting up of solar projects are covered under the classification of works contract as they consist of supply of goods and services packaged into an immovable property. They held that because of this, these projects are **liable** to be taxed at 18% that applies to works contracts. In the pre-GST era, only a small part of the total project cost, nearly a tenth of it, was covered by a service tax of 15%.The net tax effect on the solar power industry in a pre-GST regime was less than 5%, a reflection of the tax breaks it enjoyed across excise and value added tax.

The higher tax rates being levied on solar power projects is despite the NDA government's focused approach to promote solar power. The industry has sought government intervention to lower the tax burden on such projects.

**[B] The solar industry may be about to face what imported coal-based power projects saw some years back --- an increase in production cost due to changes in law and the imposition of new tariffs.** Due to a safeguards duty recently announced by the government, close to 7,000 MW of under-construction and recently bid solar projects will see their cost go up and would have to revise their tariff accordingly. Over the years, coal power projects have seen massive fluctuations in price and availability of coal. This led to high litigation cost and increase in the power rate, landing several projects in debt trap. Industry executives fear that the same could happen in the solar sector if there is no stability on tariff and clarity on regulations. "A general consensus among various GST advance ruling authorities of 18% rate of GST on solar power projects is quite an aspect of worry for the solar industry players who believe that a 5% tax should be applicable," said Abhishek Jain, tax partner, EY." To end **apprehensions**, the government should consider issuing an explicit clarification on the rate of tax applicable to such projects," he said. India is pursuing a goal of having 100 giga watt (GW) of solar power capacity by 2022, up from 23 GW at present.

India has a renewable power generation capacity of over 70 GW currently, half of which comes from wind power. Intense competition in recent years have drove down solar power tariff discovered in project auctions. The factors that helped producers to bid projects aggressively include lower price of imported solar panels and efficient financial structuring of projects. Industry observers said that global developments like China limiting solar capacity addition making more panels available for imports are helping to counter-balance cost pressures building up in the country. "The solar industry is facing upward cost pressure locally from taxes and financing, but that is getting balanced by lower equipment costs due to global developments. So, for now, project profitability is secure," said Kameswara Rao, Partner, Grid, PwC India.

**89.** Why does the solar power project issue seems to be heading for a prolonged legal battle?

(a) Because intense competition in recent years have drove down solar power tariff.
(b) As India is pursuing a goal of having 100 giga watt (GW) of solar power capacity by 2022 and it is not getting enough support to do so.
(c) As AAAR's has held that solar power projects are liable to 18% goods and services tax (GST) and not at the lower rate of 5%.
(d) Since the government has issued explicit clarifications on the rate of tax applicable to solar projects.
(e) All of these.

90. What is the factor among the given options that has brought uncertainty to solar power project developers?
    (a) Lower equipment costs due to global developments.
    (b) Unsecure project profitability of solar power projects.
    (c) Lowering down of solar power capacity from 23 GW.
    (d) Government's proposal to levy safeguard duty on imported solar panels.
    (e) High litigation cost.

91. How have AAAR's justified the liability of solar power projects withstanding under 18 % GST?
    (a) As under the previous regime, there were issues in tax treatment of works contract.
    (b) As an abatement has been prescribed for works contract under the GST law.
    (c) Setting up of solar projects are covered under the classification of works contract as they consist of supply of goods and services packaged into an immovable property.
    (d) Both (b) and (c)
    (e) Both (a) and (b)

92. What was the consequence of massive fluctuations in price and availability of coal?
    (a) As coal is not easier to transport than oil or natural gas, the mining industry got impacted.
    (b) Cost of extracting coal decreased.
    (c) Decreased economic activity and demand for steel.
    (d) High litigation cost and increase in the power rate.
    (e) None of these.

93. What are the factors highlighted that helped solar power producers in aggressive bidding?
    (a) Lower cost pressure from taxes and financing.
    (b) Lower price of imported solar panels and efficient financial structuring of projects.
    (c) Safeguards duty embedded in the imported solar panels helped solar power project developers.
    (d) Dis-balance in equipment costs due to global developments.
    (e) 5% tax reflection effect that it enjoyed across excise and value added tax.

94. Statement [A] "**A rise in project cost could get reflected in the power tariffs that solar power developers offer in auctions to win projects**" in the passage may not be grammatically or contextually correct. Choose the most suitable alternative that will replace the statement to adhere to the grammatical syntax of the paragraph.

    (a) A rise for project cost could get reflected in the power tariffs that solar power developers offer in auctions to win projects.
    (b) A rise with the project cost could get reflected in the power tariffs that solar power developers offer in auctions to win projects.
    (c) A rise with the project cost could reflects in the power tariffs that solar power developers offer in auctions to win projects.
    (d) A rise for the project cost could get reflected on the power tariffs that solar power developers offer in auctions for winning projects.
    (e) None of these

95. Which of the following options is strengthening the statement [B] "**The solar industry may be about to face what imported coal-based power projects saw some years back --- an increase in the production cost due to changes in law and the imposition of new tariffs.**" of the passage?
    (a) The tariff and litigation cost are highly instable in solar industry.
    (b) High litigation cost and increase in the power rate, landed several coal power projects in debt trap.
    (c) Electricity cost is not covered under GST, therefore the project costs increases.
    (d) India is pursuing a goal of having 100 giga watt of solar power capacity.
    (e) None of these

**Direction (96-100):** In the following questions, a paragraph is divided into five parts with one of the parts been omitted. You must choose the most suitable alternative among the five that should fill the omitted part making the paragraph grammatically correct and contextually meaningful. If none of the given alternatives are appropriate to fill the blank, choose option (e) i.e. "none of these" as your answer choice.

96. The new possibility would be thwarted by the Supreme Court directive (A)/ to make new car and two-wheeler owners purchase insurance covers (B)/ _____, (C)/ and the insurance regulator's fiat to general insurers (D)/ to sell long-term third-party motor insurance covers for new cars and two-wheelers from September 1. (E)
    (a) to set prices just as they do on own-damage covers
    (b) accident-proneness of routine travel regions, distance driven per month and so on
    (c) to acquire the capacity to enforce the law and the stipulated penalty for its violation
    (d) for at least three years and five years respectively, against the existing norm of one year,
    (e) None of these

**97.** Recently, the National Human Rights Commission (NHRC) conducted the first-ever nationwide survey (A)/ of the transgender community in India and found that (B)/ _____. (C)/ It is profoundly absurd that we think of ourselves as inhabiting a "modern" world, (D)/ and yet there exists a sizeable community of people who are structurally ostracized and denied the fundamental right to a livelihood. (E)

(a) as someone who is not of an established and accepted gender.

(b) 92% of the people belonging to the community are subjected to economic exclusion.

(c) it defined a transgender person: as neither a man nor a woman.

(d) what counts as discrimination against a transgender person.

(e) None of these

**98.** A backlog of 0.24 million unfilled posts in the public sector, (A)/_____ (B)/ surrounding the National Democratic Alliance government's claim on job creation. (C)/ With the public sector being the major contributor in formal sector employment in the country, (D)/ historically, this backlog of vacancies speaks volumes about the nature of the jobs that the government claims to have created. (E)

(a) as reported by the media recently, has escalated the contention

(b) seems to be in denial that this contemporary trend of informalisation

(c) with presumably higher level of education and skill, is perplexing

(d) finds it difficult to match up to the central government pay-packages

(e) None of these

**99.** _____(A)/ as their currencies resume their prolonged slide against the U.S. dollar. (B)/ The Indian rupee weakened past the 71 mark for the first time ever on Friday, (C)/ registering a loss of about 10% of its value against the dollar since the beginning of the year. (D)/ This makes the rupee the worst-performing currency in Asia. (E)

(a) Investors who earlier put their money in emerging markets

(b) Emerging market currencies, most notably the Turkish lira have suffered much larger losses owing

(c) Emerging market economies continue to be in the spotlight for the wrong reasons

(d) Emerging market countries, which earlier benefited from the easing of monetary conditions,

(e) None of these

**100.** Kerala's unique topography of coastal plains (A)/ and rolling hills between the Arabian Sea and the Western Ghats (B)/ _____, (C)/ landslides, flooding and coastal erosion being the most common. (D)/ Incidents of flooding have become frequent, aided by human intervention. (E)

(a) 70% of its coastal areas are prone to tsunamis and cyclones

(b) is vulnerable to several natural hazards

(c) 60% of its landmass vulnerable to earthquakes

(d) 12% of its land to floods

(e) None of these

**Direction (101-103):** Select the phrase/connector (STARTERS) from the given three options which can be used to form a single sentence from the two sentences given below, implying the same meaning as expressed in the statement sentences.

**101.** (I) Unmanned or remotely piloted aircraft, commonly known as drones, hold immense promise for various commercial applications,

(II) The government has done well to set up a regulatory framework for drone operations, including commercial use.

(i) Given how unmanned…

(ii) Since unmanned or…

(iii) Provided that unmanned…

(a) Only (ii)

(b) Only (iii)

(c) Both (ii) and (iii)

(d) Both (i) and (ii)

(e) All of these

**102.** (I) People have to be convinced to buy insurance for the expected life of the vehicle at the time of purchase, as in the case of road tax.

(II) This process of convincing interferes with the need to set premium based on data relating to safety and diligence of the driver, which would change over time.

(i) Convincing people to buy…

(ii) People are convinced to buy…

(iii) The convincing process interferes…

(a) Only (i)

(b) Only (iii)

(c) Both (ii) and (iii)

(d) Both (i) and (ii)

(e) All of these

**103.** (I) The country should find viable and sustainable replacements for its energy needs.

(II) International oil price movements will continue to be an important fault line in India's political economy without sustainable replacements for energy needs.

(i) Unless the country finds…
(ii) Except that the country finds…
(iii) Considering the country finds…
(a) Only (i)
(b) Only (iii)
(c) Both (ii) and (iii)
(d) Both (i) and (ii)
(e) All of these

**Directions (104-107):** In the following questions, a paragraph is given with three blanks, followed by six words. You have to choose the most suitable combination of words among the five four alternative options, that will fill the blank coherently, forming a grammatically correct and contextually meaningful paragraph. If none of the given combination is appropriate to fill the blank, mark option (e) i.e. "none of these" as your answer choice.

104. The term 'secularism' has meaning only if it assures the expression of any form of difference. This _____, both religious and regional, should not get _____ under the louder voice of the majority, the Commission said. At the same time, it said, discriminatory practices within a religion should not hide behind the cloak of that faith to gain _____.
(i) Subsumed      (ii) Socialism      (iii) Invigorated
(iv) Diversity      (v) Legitimacy      (vi) Astuteness
(a) ii, iii, vi      (b) iv, i, v      (c) v, i, ii
(d) ii, iv, v      (e) None of these

105. The Directorate General of Civil Aviation (DGCA) has made public its inquiry report into an incident involving a plane _____ Congress president Rahul Gandhi from Delhi to Karnataka in April. The _____ has revealed that there was a technical _____ in the plane, and as the response of the two pilots to the situation was delayed, the aircraft tilted sharply on one side and began to fall rapidly.
(i) Gremlin      (ii) Ferrying      (iii) Advocacy
(iv) Glitch      (v) Barging      (vi) Probe
(a) ii, iii, I      (b) iv, i, v      (c) v, i, ii
(d) ii, vi, iv      (e) None of these

106. The government seems to be in denial that this _____ trend of informalisation of labour in India is policy-induced. By _____ the traditionally used National Sample Survey Office's (NSSO) employment–unemployment estimates, with the Employees' Provident Fund Organisation (EPFO) database of inconsistent quality, the government is trying to sweep some _____ evidences under the carpet.

(i) Disconcerting
(ii) Posterior
(iii) Superseding
(iv) Contemporary
(v) Bewildering
(vi) Supplanting
(a) ii, iii, I      (b) iv, i, v      (c) iv, vi, i
(d) ii, vi, iv      (e) None of these

107. While the Supreme Court has _____ the detention of the accused in jail, their house arrest is only a limited _____. The truth is that the accused will have to face a never-ending oppressive _____process which, once initiated, consumes life and is destructive of one's pride and dignity.
(i) disdain      (ii) legitimate      (iii) interdicted
(iv) consolation      (v) prosecutorial      (vi) suppressed
(a) ii, i, vi      (b) iv, i, v      (c) v, vi, i
(d) iii, iv, v      (e) None of these

**Directions (108-110):** Given below are six sentences (A) (B) (C) (D) (E) and (F). Answer the following questions after rearranging the following sentences into a coherent paragraph.

(A) Tests of Ganga water indicate it has fared better in Uttar Pradesh; but then, the clean-up plan for the river has received dedicated Central funding of Rs.3,696 crore over three and a half years, compared to Rs.351 crore given to 14 States to conserve 32 rivers.

(B) The finding of the Central Pollution Control Board that the number of critically polluted segments of India's rivers has risen to 351 from 302 two years ago is a strong indictment of the departments responsible for environmental protection.

(C) Their problems are worsened by the poor infrastructure available in a large number of cities and towns located near rivers. It is notable that these results come from a CPCB audit that was carried out at the instance of the National Green Tribunal.

(D) The data show that the plethora of laws enacted to regulate waste management and protect water quality are simply not working.

(E) The failed efforts to control pollution are all too evident in Maharashtra, Gujarat and Assam, which account for a third of the degraded river segments.

(F) The study also underscores the failure of many national programmes run by the Centre for river conservation, preservation of wetlands, and water quality monitoring.

**108.** Considering statement (A) "**Tests of Ganga water indicate it has fared better in Uttar Pradesh; but then, the clean-up plan for the river has received dedicated Central funding of Rs.3,696 crore over three and a half years, compared to Rs.351 crore given to 14 States to conserve 32 rivers**" as the fourth sentence of the rearranged paragraph, then which among the following becomes the SECOND sentence after rearrangement?
(a) F       (b) C       (c) E
(d) D       (e) B

**109.** Considering statement (A) "**Tests of Ganga water indicate it has fared better in Uttar Pradesh; but then, the clean-up plan for the river has received dedicated Central funding of Rs.3,696 crore over three and a half years, compared to Rs.351 crore given to 14 States to conserve 32 rivers**" as the fourth sentence of the rearranged paragraph, then which among the following becomes the LAST sentence after rearrangement?
(a) F       (b) C       (c) E
(d) D       (e) B

**110.** Among the following pairs which one of them is formed with two consecutive statements after the rearrangement?
(a) D – E       (b) F – C       (c) B – F
(d) A – D       (e) B – D

**111.** Choose the word which is most nearly the **SAME** in the meaning to **SALUBURIOUS**.
(a) Exorbitant       (b) Quandary       (c) Enigma
(d) Salutary       (e) Outrageous

**112.** Choose the word which is most nearly the **OPPOSITE** of **CAMOUFLAGE**.
(a) Debunk       (b) Indignant       (c) Vapid
(d) Anemic       (e) Candid

**Directions (113-115):** In each of the following questions, a sentence is written in four different ways conveying the same meaning and following the correct grammar structure. Choose the sentence among the four options which is grammatically incorrect or carrying a grammatical/idiomatic error in it as the answer. If there is no error in any of the sentences, choose (e), i.e. "All are correct" as the answer.

**113.** (a) Two months ahead of the State Assembly elections, widespread discrepancies have been detected in the electoral rolls of Rajasthan with doubts that the names of many legitimate voters have been struck off the lists.
(b) Extensive inconsistencies have been found in the electoral register of Rajasthan with the doubts that the names of many legitimate voters have been removed from the voter lists when two months are left for the State Legislative Assembly.

(c) The doubts that the names of many legitimate voters have been struck off the lists have been precipitated due to the detection of widespread discrepancies in the electoral rolls of Rajasthan just two months ahead of the State Assembly elections.
(d) Removal of names of a few legitimate voters from the voter lists have raised doubts about the widespread consistencies in the electoral rolls of Rajasthan.
(e) All are correct

**114.** (a) At the time as Punjab Chief Minister Amarinder Singh emphasized on Monday that nobody involved in sacrilege cases would be spared, the Shiromani Akali Dal-BJP combine has decided to meet the Governor over the 'deteriorating law and order' situation in the State of Punjab.
(b) The Shiromani Akali Dal-BJP combine has decided to meet the Governor over the 'deteriorating law and order' situation in the state of Punjab because Punjab Chief Minister Amarinder Singh emphasized on Monday that nobody involved in sacrilege cases would be spared.
(c) While Punjab Chief Minister Amarinder Singh insisted on Monday that nobody involved in sacrilege cases would be spared, the Shiromani Akali Dal-BJP combine has decided to meet the Governor over the 'deteriorating law and order' situation in the State of Punjab.
(d) During the time that Punjab Chief Minister Amarinder Singh insisted on Monday that nobody involved in sacrilege cases would be spared, the Shiromani Akali Dal-BJP combine has decided to meet the Governor over the deteriorating law and order' situation in the State of Punjab.
(e) All are correct

**115.** (a) The AAP, having made efforts to make peace with "rebels" and "former leaders", has reached out to ex-Punjab convener Sucha Singh Chootepur, two years after he was sacked on charges of taking bribe for allotting party tickets.
(b) The AAP, as part of its efforts to make peace with "rebels" and "former leaders", has reached out to ex-Punjab convener Sucha Singh Chhotepur, two years after he was sacked on charges of taking bribe for allotting party tickets.
(c) The AAP, with an intent to reconciliate with "rebels" and "former leaders", has approached ex-Punjab convener Sucha Singh Chhotepur, two years after he was discharged on charges of taking suborn for allotting party tickets.
(d) The AAP, to reconciliate with "rebels" and "former leaders", has approached ex-Punjab convener Sucha Singh Chhotepur, two years after he was dismissed against taking bribe for allotting party tickets.
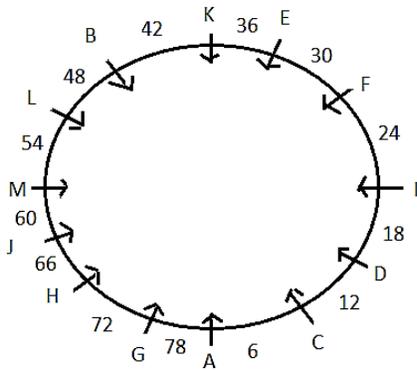(e) All are error

## REASONING ABILITY

**Directions (1-5):**
Sol.



| | | |
|---|---|---|
| 1. **(d)**; | 2. **(c)**; | 3. **(c)**; |
| 4. **(b)**; | 5. **(a)**; | |

6. **(c)**; Non –biodegradable nature of plastic bag can't be correlated with the statement because the statement does not say whether plastic is biodegradable nor non-biodegradable. Hence, I is not implicit. But II is obviously implicit. That is why the scientist uses the word 'Beware' in his statement before asserting the negative features of plastic.

7. **(a)**; Option (a) may be the cause of vacant seat in the engineering colleges because due to the recession, the number of jobs available are decreasing day by day, hence the unemployment is increasing in the engineering sector. So (a) is the correct option.

8. **(b)**; Option (b) may be a possible effect of big pig holes developed on the roads.

**Direction (9-13):**
From the above given conditions the matrix will be---

| Rows↓/Column→ | A | B | C | D | E |
|---|---|---|---|---|---|
| # | 13 | 26 | 39 | 52 | 65 |
| % | 11 | 22 | 33 | 44 | 55 |
| @ | 28 | 35 | 42 | 49 | 56 |

9. **(c)**; x =#C %D #A #E
So, x=39 44 13 65
As it is clear that condition (2) is applicable in the above ques so the outcome will be—
Outcome= 3*4*1*6=72
As the outcome is below 85, so clearly P will blink.

10. **(d)**; X = @A @C #D %B
So, X = 28 42 52 22
As it is clear that condition (1) is applicable in the above ques so the outcome will be—
Outcome=28+42+52+22=144
As the outcome is 111-210, so clearly R will blink.

11. **(c)**; X = #A%E %A @B
So, X = 13 55 11 35
As it is clear that condition (3) is applicable in the above ques so the outcome will be—
Outcome= 3*5*1*5= 75
As the outcome is below 85, so clearly P will blink.

12. **(d)**; X =@A#B@D%C
So, X = 28 26 49 33
As it is clear that condition (4) is applicable in the above ques so the outcome will be—
Outcome= 28+26+49+33=136
As the outcome is 111-210, so clearly R will blink.

13. **(a)**; X = @E#D@D#E
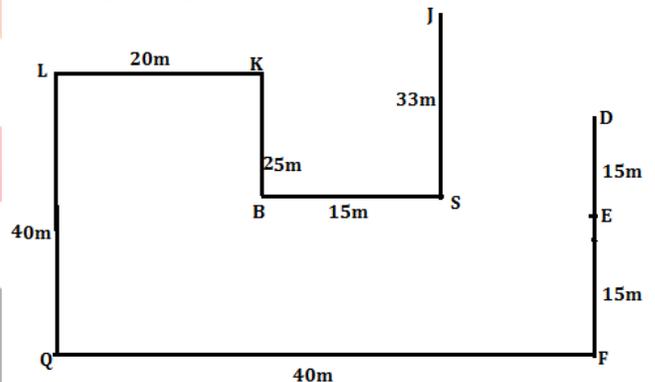So, X = 56 52 49 65
As it is clear that condition (4) is applicable in the above ques so the outcome will be—
Outcome= 56+52+49+65=222
As the outcome is greater than 210, then S blink.

**Direction (14-18):**



| | | |
|---|---|---|
| 14. **(d)**; | 15. **(e)**; | 16. **(d)**; |
| 17. **(d)**; | 18. **(d)**; | |

**Direction (19-23):**
Only two persons are senior than A. The one who is junior than only one person likes Litchi. The one who likes Mango is senior than B. F likes Guava and is junior than B. B does not like Litchi.

| Designations | Persons | Fruits |
|---|---|---|
| CMD | | Mango/ |
| MD | | Litchi |
| CEO | A | Mango/ |
| COO | B/ | Mango/ |
| SE | B/ | |
| JE | | |

The one who is JE neither likes Banana nor Grapes. The one who likes Kiwi is junior than D. The one who likes Kiwi is not JE. F likes Guava and is junior than B. E does not like Kiwi and junior than C but senior than F. So, clearly F is JE.

| Designations | Persons | Fruits |
|---|---|---|
| CMD | | Mango/ |
| MD | | Litchi |
| CEO | A | Mango/ |
| COO | B/ | Mango/ |
| SE | B/ | |
| JE | F | Guava |

D does not like Litchi and also is not SE. E does not like Kiwi and junior than C but senior than F. D is junior than the one who likes Banana. C is not junior than the one who likes Grapes. The one who likes Kiwi is just junior than D.

| Designations | Persons | Fruits |
|---|---|---|
| CMD | | Mango/ Banana |
| MD | | Litchi |
| CEO | A | Mango/Banana |
| COO | D | Mango/ |
| SE | B | Kiwi |
| JE | F | Guava |

E does not like Kiwi and junior than C but senior than F. D is junior than the one who likes Banana. A does not like Banana. The one who likes Grapes is senior than the one who likes Mango. So, the final arrangement is---

| Designations | Persons | Fruits |
|---|---|---|
| CMD | C | Banana |
| MD | E | Litchi |
| CEO | A | Grapes |
| COO | D | Mango |
| SE | B | Kiwi |
| JE | F | Guava |

**19. (e);**   **20. (c);**   **21. (a);**

**22. (e);**   **23. (e);**

**Direction (24-28):**

| Years | Persons |
|---|---|
| 1978 | Z |
| 1982 | X |
| 1995 | O |
| 1997 | R |
| 2013 | J |
| 2015 | L |

X(-) ═══ Z(+)
                |
R(-) ═══ O(+)
                |
L(-) ─── J(+)

**24. (c);**   **25. (c);**   **26. (a);**

**27. (a);**   **28. (c);**

**Directions (29-31):**

**29. (b);** From I and III,

N   L   K   M   O

S   Q   R/T   P   R/T

**30. (d);** From I, II and III

N   L   K   M   O

S   Q   T   P   R

**31. (b);** From I and III,

N   L   K   M   O

S   Q   R/T   P   R/T
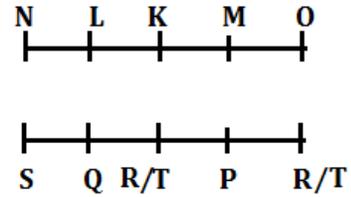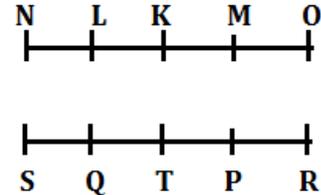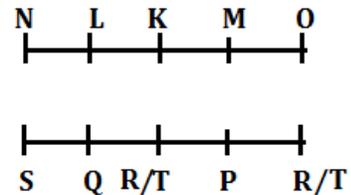
**32. (a);** For I- This statement supports the given statement as it describes that the authority's report also has detailed guidelines for museums to tackle different kinds of threats as given in the statement that Disaster management systems can safeguard India's heritage.

For II- This statement supports the given statement as it describes that analysis of NDMA shows that India's museums face lists terrorism and climate-related events which is also mentioned in the given statement.

For III- This statement does not support or negates the given statement as it describes that Climate-related issues are not a matter of concern for Indian Heritage whereas the given statement states that India's Disaster management systems can safeguard its' heritage from climate changes.

**Direction (33-37):**

Let us understand the logic behind the given coding decoding

Case-1: If the first letter of the code is consonant-

second preeceding letter of the opposite letter of second last letter of the word

Festival ─── 8 X

Total number of letters in the word
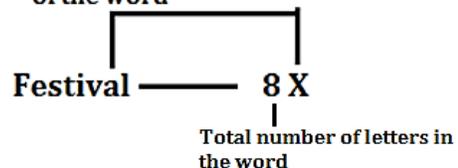
**Case-2:** If the first letter of the code is vowel-



opposite of second letter of the word

Iconic ⟶ 6 X J

Total number of letters in the word

next letter of second last letter of the word
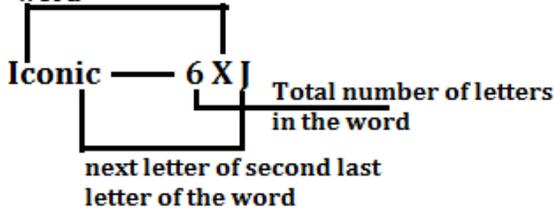
**33. (c);**　　　**34. (d);**　　　**35. (b);**

**36. (e);**　　　**37. (b);**

**38. (a);** It is clear from the above that statement I is the cause and II is it's effect as this will be the cause that Infosys is planning to hire workers and for that it will hire graduates and will create talent pools will be it's effect.

**39. (b);** It is clear from the above statement that II is cause and I is it's effect because the PAN has become

more vulnerable that is why Aadhar has become mandatory for filing Income Tax.

**40. (a);** (i) most accurately defines term "implicit bias" as the word automatic was used which is similar to the term "unintentionally racist" used by researchers.

**Directions (41-45):**

| Floor | | | |
|---|---|---|---|
| 6 | A | | |
| 5 | J | | D |
| 4 | F | B | G |
| 3 | N | H | L |
| 2 | E | K | C |
| 1 | O | M | I |

**41. (e);**　　　**42. (d);**　　　**43. (e);**

**44. (c);**　　　**45. (b);**

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## QUANTITATIVE APTITUDE

**46. (a);** Let Abhi and Chintu received 100x & 100y calls respectively

So ATQ

$80x + 80y = 360$

$x + y = 4.5$

Total calls = $100x + 100y = 450$

Abhi could receive maximum calls = 445

As Chintu resolved 80% of calls, and therefore, we will get an integer value when he atleast get 5 calls.

So maximum calls that were not resolved

$\Rightarrow 445 \times \frac{20}{100} = 89$

**47. (e);** Call received by Bindu on monday = $\frac{180}{60} \times 100$

= 300

Query resolved by Abhi on Monday

$\frac{300}{5} \times 4 = 240$

Calls received by Abhi on Monday

$\Rightarrow \frac{240}{75} \times 100 = 320$

**48. (d);** Let calls received by Bindu and Chintu on Monday be 100x and 100y respectively.

Calls received by them on Friday 120x and 120y respectively.

Now query resolved

Monday → $60x + 90y$

Friday → $60x + 96y$

ATQ,

$\frac{60x+96y}{2} - \frac{60x+90y}{2} = 30$

$3y = 30$

$y = 10$

Required answer → $10 \times 20 = 200$

**49. (c);** Let query resolved by Abhi, Bindu and Chintu 300x, 400x and 200x respectively

Required ratio

$\Rightarrow \frac{300x}{80} \times 100 : \frac{400x \times 100}{50} : \frac{200x \times 100}{80}$

$15 : 32 : 10$

**50. (b);** Let call received by Chintu on Monday → 100x

Query resolved by Chintu on Monday → 90x

Query resolved by Chintu on Friday → $\frac{90x}{60} \times 100$

= 150x

Query resolved by Abhi on Friday ⇒ $90x + 150x$

$\Rightarrow 240x$

Call received by Abhi on Friday =

$\frac{240x}{80} \times 100 = 300x$

Required % = $\frac{300x - 100x}{100x} \times 100 = 200\%$

**51. (b);** Let number of pink and Green balls is P and G respectively

$P + G = 16$

(A) → $P(P) < 0.1875$

$P(P) < \frac{3}{16}$

So it explains that P should be 1 or 2

(B) → we cannot conclude anything from this statement

(C) → Now difference of P and G is given = 12

But we don't know which one is greater.

So,

By using (A) and (C) together we can answer the question.

**52. (d);** Let speed of boat and stream be x and y respectively

(A) $\rightarrow \frac{270}{(x+y)} + \frac{270}{(x-y)} = 27$

(B) $\rightarrow$ x + y = 45 km/hr

(C) $\rightarrow$ x – y = $\frac{90}{7}$ km/hr

By using any two statements we can give answer.

**53. (e);** From statement (a)

$b = \frac{1}{a^{-5}}$

$b = a^5$

we can conclude that sign of both a and b is same.

If a is positive, then b is greater than a.

If a is negative, then b is less than a.

We can't answer question from statement (a) alone.

From statement (b)

a< 0

Nothing can be concluded.

From statement (C)

|b| > |a|

There are 4 cases:

(i) When b is positive and a is negative, then b>a.

(ii) When a is positive and b is negative, then a>b.

(iii) Again if both are positive than b> a

(iv) If both are negative than b< a.

From statement (a) and (b)

a< 0

Hence b< a.

And we can answer question.

From statement (b) and (c)

We only know that a is negative and nothing about sign of b. Hence it can't be answered.

From statement (a) and (c)

We also can't answer.

**Statement (a) and (b) are sufficient to answer the question.**

**54. (a);** Quantity I $\rightarrow [(1333)^{27}]^{55}$

Unit digit $\rightarrow (1333)^{1485}$

Number whose last digit is '3' has last digit change in a sequence

$1 \rightarrow 3$

$2 \rightarrow 9$

$3 \rightarrow 7$

$4 \rightarrow 1$

$5 \rightarrow 3$

And so on

For 1485 $\rightarrow$ last digit $\rightarrow$ 3

Quantity II — $[(127)^{43}]^{52}$

$\Rightarrow [(127)]^{2236}$

For 7 $\rightarrow$

$1 \rightarrow 7$

$2 \rightarrow 9$

$3 \rightarrow 3$

$4 \rightarrow 1$

$5 \rightarrow 7$

For 2236 it is $\rightarrow$ 1

Quantity II < Quantity I

**55. (a);** **Quantity I:**

Let length of rectangle = L

Breadth of rectangle = b

Radius of circle = $\frac{b}{2}$

Now,

$L \times b = 2 \times \pi \left(\frac{b}{2}\right)^2$

$L = \frac{\pi b}{2}$

$\% \Rightarrow \left(\frac{\frac{\pi b}{2} - b}{b}\right) \times 100 = \frac{4 \times 100}{7} = 57\frac{1}{7}\%$

**Quantity II:**

Square get change into the rectangle.

By increasing 10 cm two opposite sides, Area increased $\rightarrow$ 400

Side $\rightarrow \frac{400}{10}$ = 40 cm

Area of square = 40*40= 1600 square cm.

% by which area increase $\rightarrow \frac{400}{1600} \times 100 = 25\%$

Quantity I > Quantity II

**56. (d);** PQ = R + Q

From statement (A)

P + R = 8 + Q

R = (8 + Q – P)

From Question

PQ = 8 + Q – P + Q = 8 + 2Q – P

It can't be solved further.

From statement (B)

$Q^2 = \frac{R^2}{P+1}$

$Q = \frac{R}{(P+1)^{\frac{1}{2}}}$

Now using the information from question

$P\left(\frac{R}{(P+1)^{\frac{1}{2}}}\right) = R + \frac{R}{(P+1)^{\frac{1}{2}}}$

On solving we will get P = 3.

Put this value in equation:

$Q = \frac{R}{(P+1)^{\frac{1}{2}}}$

Q = R/2

Put this value and P = 3 in equation given in question

3R/2 = R + R/2

Hence we can't solve it further.

From statement (C)

Q = P + 2

And it can't be solved further.

Using information from statement (B ) and (C) we can calculate Q= 5 and R= 10. Hence question can be answered.

Similarly, we can answer question using statement (A) and (c) as there are three equations and three variable. (third equation given in the question can be used)

Or from statement (A) and (B).

**Hence question can be answered from any two statements.**

**57. (e);** **From A** → Let selling price of 4 pens = 12x

Cost price of 4 pens = $12x \times \frac{2}{3} = 8x$

Profit earned on 4 pens = 12x- 8x = 4x

Cost price of 3 books = 12x

Profit earned on selling 2 pens = 2x

Profit earned on selling 1 pen = x

Profit earned on selling one book = 2x

Profit earned on selling 2 books = 4x

Required profit percentage= $\frac{x+4x}{2x+8x} \times 100 = 50\%$

**From B** → Let selling price of 2 books and 6 pens be 12x and 18y respectively.

If profit % is 50 , we can calculate total profit i.e. $\frac{1}{3}$ (12x + 18y) = 4x+ 6y.

This profit is equal to 500 % of CP of 1 pen.

But we don't know CP of a pen, hence we can't calculate further.

**From C→ let** cost price of pen is 'a' and cost price of book is 'b'

Therefore, selling price of a book is b + a. We can't calculate further.

Now combining the statement B and C

b + a = 6x

$\frac{500}{100}(a) = 5a = 4x + 6y$

We can't solve it further, as we don't know whether profit or loss earned on selling the pen.

Statement '**A**' alone is sufficient to answer the question, but statement '**B**' alone is not sufficient to answer the questions.

**Solutions (58-62)**

Let total people → 100x

People working in Retail stores → 72x

People working in only door to door → 2x

People working in only online store ⇒ 2x + 65

People working in online and door to door but not in retail = 55

Also

(100x – 72x – 2x) – (2x + 65) = 55

24x – 65 = 55

24x = 120

x = 5

Total number of people working in retail store → 72 × 5 = 360
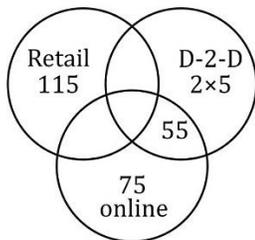


People working in only retail store → $75 \times \frac{46}{30} = 115$

**58. (b);** Number of people working in retail store → 360

People working only in retail store = 115

Required number = 360 – 115 = 245

**59. (e);** Total people → 100 × 5 = 500

**60. (c);** People working in online store
Only = 75

**61. (a);** People working in both retail and door to door stores

= 360 – 115 – 105 = 140

Required % = $\frac{140 \times 100}{500} = 28\%$

**62. (d);** People working in Retail or online store = 500 – 10 = 490

People working in only online or only retail

⇒ 75 + 115 = 190

% ⇒ $\frac{490}{190} \times 100 = 257\frac{17}{19}\%$

**63. (c);** Selling price of article I ⇒ 80 × 800 = 64000

II ⇒ 160 × 600 = 96000

III ⇒ 240 × 400 = 96000

Let commission % be (a – 1), a and (a + 1) respectively.

ATQ,

$64000\frac{(a-1)}{100} + \frac{96000(a)}{100} + \frac{96000(a+1)}{100} = 32000$

a = 12.375%

highest commission = 13.375%

**64. (d);** Total commission earned by C = 35000 Rs.

Total selling price of product I = 105 × 200 = 21000 Rs.

Total selling price of Product II = 105 × 300 = 31500 Rs.

Total selling price of Product III = 105 × 400 = 42000 Rs.

Let commission percent = x%

$(21000 + 31500 + 42000) \times \frac{x}{100} = 35000 = \frac{1000}{27}\%$

**65. (a);** Total commission of D = $\frac{35000 \times 8}{7}$ = Rs . 40000.

S.P. of each product = 100 × 800 = Rs. 80000

Let commission % charged on 3 products be (x – 5) %, x% and (x+5) %.

So,

$80000\frac{(x-5)}{100} + 80000\frac{(x)}{100} + 80000\frac{(x+5)}{100} = 40000$

2400x = 40000

$x = \frac{400}{24} = \frac{100}{6}\%$

$x = 16\frac{2}{3}\%$

Least range could be = 16 – 5 = 11%

16 + 6 = 22% = (11 – 22)

**66. (d);** Let total articles = x

So S.P. = x

Now total commission ⇒ 35000

Minimum values of x = 100

Maximum value of x = 109

Let 'a' be commission %

So, Max value of 'a' could be

$(100 \times 100) \times \frac{a}{100} = 35000$

a = 350%

Minimum value could be

$109 \times 109 \times \frac{a}{100} = 35000 \approx 294.5$

Range = (294 – 350)

**67. (b);** Total population in X and Z is 16000 and 12800

Population in Y $\Rightarrow \frac{16000}{4} \times 5 = 20,000$

Cycle manufactured by A, B and C = 16000 + 12800 + 20000 = 48800

Total cycle manufacture by A = $\frac{48800}{61} \times 22 = 17600$

By B = $\frac{48800}{61} \times 19 = 15200$

By C = $\frac{48800}{61} \times 20 = 16000$

Cycle supplied by A = $\frac{60}{100} \times 17600 = 10560$

By B = $\frac{75}{100} \times 15200 = 11400$

By C = $\frac{80}{100} \times 16000 = 12800$

Cycle supplied in Y = 10560 + 11400 + 12800 – 16000 – 12800 = 5960

Revenue = 8000 × 5960 = 47680000 = 4.768 cr.

**68. (d);** Total revenue = 9.6 cr

Total cycle supplied = $\frac{\text{Revenue}}{8000} = \frac{9.6\ cr}{8000} = 12000$

Cycles supplied by C = $\frac{12000}{3} = 4000$

Total profit = 4000 × (8000 – 6000) = 80 lakh

**69. (c);** Total cycles manufactured by A = 17600

Total cycles manufactured by C = 16000

Cycle remained with A = 17600 – 10560 = 7040

Cycle remained with C = 16000 - 12800 = 3200

Cycles delivered by manufacturer A or number of cycles demanded from manufacturer A

= (50×7040)/100=3520

Similarly,

New number of supplied by C = $\frac{3200 \times 10}{100} = 320$

Total revenue of A and C = (10560 + 3520+ 12800 + 320) × 8000

= 21.76 crore.

Total manufacturing cost by A and C

= (17600 + 16000) × 6000 = 20.16 cr.

Required % = $\frac{21.712}{20.16} \times 100 \approx 107\%$

**70. (a);** Bill paid by Rahul in year 2015

= $\frac{(1200+1400)}{2} \times \frac{125}{100}$ = Rs 1625

Amount paid by him in FD = 1200 × 2 = Rs 2400

Required difference = 2400 – 1625 = Rs. 775

**71. (d);** Total amount paid by Rahul on Food in year 2011 and 2012 together

= 1000 + 1400 = Rs 2400

Total amount paid by him on shopping in same year together

= 1200 + 1000 = Rs 2200

Required percentage = $\frac{2400-2200}{2200} \times 100 = 9\frac{1}{11}\%$

**72. (b);** Amount paid by Rahul on Rent in year 2010

= $\frac{1}{5}[800 + 1000 + 1200 + 1000]$

= $\frac{1}{5}[4000]$ = Rs 800

Required ratio = $\frac{800}{1000}$ = 4 : 5

**73. (e);** Amount paid by Rahul on Bill in 2015

= $\frac{1200}{2} \times 3$ = Rs 1800

Required difference = $\frac{1800}{2} \times 3$ = Rs 2700

**74. (b);** Average amount paid by Rahul in FD Rent and Food in year 2012

= $\frac{800+1000+1400}{3}$ = Rs $\frac{3200}{3}$

Average amount paid by Rahul on Shopping, Rent and Bill in year 2013

= $\frac{600+1200+1200}{3} = \frac{3000}{3}$ = Rs1000

Required percentage = $\frac{3200}{3000} \times 100 = 106\frac{2}{3}\%$

**75. (a); Quantity I**:

1 man = 2 women

∴ 8 men + 4 women = 20 women

4 men + 8 women = 16 women

20 women's 2 days' works = $\frac{2}{6} = \frac{1}{3}$ part

Remaining work = $1 - \frac{1}{3} = \frac{2}{3}$

∵ 20 women complete 1 work in 6 days

∴ 16 women will do $\frac{2}{3}$ work in $\frac{20 \times 6}{16} \times \frac{2}{3}$ = 5 days

**Quantity II**: 5 days

⇒ **Quantity I = Quantity II**

**76. (d);** Let the speed of X be x kmph. Distance travelled by X in 2 hours = 2x km.

Suppose X takes 't' hours to travel $\frac{1}{5}$th of the distance AB.

Y would take (t–2) hours to travel $\frac{1}{5}$th of the distance AB.

As Y's speed is thrice that of X's speed.

$\frac{t-2}{t} = \frac{1}{3}$

t = 3

$\frac{1}{5}$th of the distance AB = 3x km.

AB =15x km

Time taken by x to cover 15x km = $\frac{15x}{x}$ = 15 hours

Time taken by Y to cover 15x km = $\frac{15x}{3x}$ = 5 hours.

∴ Difference in the time = 10 hours.

**Quantity I :** Difference in the time = 10 hours.

**Quantity II :** 12 hours

**Quantity I < Quantity II**

**77. (e);** After 20% of the contents of the vessel are removed,

Remaining contents = $\frac{80}{100}(12.5) = 10$ litres.

Ratio of water and milk in it = 1 : 4.

∴ It contains $\frac{4}{5}(10) = 8$ litres of milk and 2 litres of water.

To reverse the ratio, 2 litres of water must be made 32 litres.

∴ x = 30 litres of water must be added.

To reverse this ratio again 8 litres of milk must be made 4(32) = 128 litres.

∴ y = 128 – 8 = 120 litres of milk must be added.

**Quantity I:** 'y' = 120 litres

**Quantity II:** 'x' = 30 litres

**Quantity I > Quantity II**

**Direction (78-80):**

Let investment of Rahul, Sandy and Sati be 2x, 3x and 4x respectively.

Ratio of profit

| Rahul | : | Sandy | : | Sati |
|---|---|---|---|---|
| 2x × 4 | : | 3x × 4 | : | 4x × 10 |
| +(2x – 800)×6 | | +(3x+1500)× 6 | | +(5x × 2) |
| +(5x–800)× 2 | | (9x +1500) × 2 | | |
| 30x – 6400 | : | 48x + 12000 | : | 50x |

ATQ,

$\frac{50x}{128x+5600} = \frac{125}{376}$

$\Rightarrow$ x = 250

Ratio of profit share of Rahul, Sandy and Sati is

1100 : 24000 : 12500 → 11 : 240 : 125

**78. (a);** Required percentage = $\frac{240}{376} \times 100$

= 63.829% ≃ 64%

**79. (d);** Required difference = $\frac{240-11}{376} \times 37600 = 22,900$

= 22,900

**80. (c);** Investment of Veer

= $4 \times 250 \times \frac{350}{100} = 3500$

Interest earned by Veer

= $3500 \left[1 + \frac{20}{100}\right]^2 - 3500 = 1540$

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# ENGLISH LANGUAGE

**81. (d);** Though the economic lucrativeness of innovation is described in the whole passage through the idea of success of business but being specific the answer can be derived from the first paragraph of the passage where it is mentioned that innovation is a process of turning a creative idea into reality. Innovation drives economic growth. ". Innovation is not only important on the individual level, but can make or break a business as well."

**82. (e);** Both the options (b) and (c) are correct .Refer to paragraph 2 where it is given that if a business is not innovative, companies risk losing work to competitors. Furthermore the text is also quoted as, "Lack of innovation also has indirect results such as losing staff and decreasing engagement." Thus innovation cannot be an afterthought but rather a crucial element that is included in part of your strategy. Hence option (e) is the correct choice.

**83. (d);** Options (a) and (b) are the statements which infer the meaning that has been asked in the given question. Refer to the third paragraph where the starting line of the paragraph itself is, "The era of invention is not over, but it has definitely been pushed aside for an era of innovation." It is also given that businesses have discovered that innovation seems to not only trump invention in furthering a company's brand and profitability, but it can be far cheaper when all the framework is already completed.

**84. (c);** The most appropriate answer here is option (c).Refer to the last paragraph of the passage where it is given Sony's influence in the technology market is through creativity and perseverance. Furthermore in the third paragraph it is mentioned that businesses like Apple and Sony choose to innovate rather than invent. The text is quoted as, "Sony shows corporations that for a business to thrive in today's market, a company cannot stay stagnant with on particular item – innovations are essential. Innovation drives economic growth."

**85. (a);** Option (a) articulates statement (A) in the most precise manner. To understand the given statement, hint from the following statement can be drawn "Innovation is not only important on the individual level, but can make or break a business as well" which explains the importance of innovations in a business. Therefore, one should be careful enough while developing a successful and worthy innovation. Thus, option (a) is the most suitable answer choice.

**86. (c);** Option (c) can be aptly inferred from the sentence [B] as the idiom "to color outside the lines" means to think or act in a way that does not conform to set rules. Therefore, in context to the passage it can be understood that innovations play a vital role in surviving the business in the dynamic market. Therefore, the businessmen try to introduce new innovations even though it bears risks for the business. Hence, option (c) is the most suitable answer choice.

**87. (b);** Option (b) is the most appropriate sentence to replace the grammatically incorrect statement [C]. It is to be noted that determiners are words placed in front of a noun to make it clear what the noun refers to. Here, since the associated noun is singular [The era], the determiner [it] and the verb [has] should be in their singular form as well. Moreover, option (a) stands incorrect due to improper usage of the preposition "to". Hence, option (b) becomes the most suitable answer choice.

**88. (d);** The statement clearly mentions the driving factor for innovation i.e. customer satisfaction [...**based on the needs and desires of the consumer].** All the other options are irrelevant. Hence, option (d) is the most suitable answer choice.

**89. (c);** The only correct answer here is option (c). Refer to paragraph 1 where it is mentioned that Maharashtra's appellate authority for advance ruling (AAAR) has held that solar power projects are liable to 18% goods and services tax (GST) and not at the lower rate of 5% as claimed by power producers. Thus, this issue seems to be headed for a prolonged legal battle unless the government decides to step in and issue clarity on the taxability on solar power projects. This statement also makes option (a) wrong making suitability of option (c) correct.

**90. (d);** Only option (d) is the most suitable choice. Refer to paragraph 1 where it is given that government proposal to levy safeguard duty on imported solar panels that is meant to support domestic panel manufacturers is another factor that has brought **some uncertainty** to solar power project developers.

**91. (c);** Option (c) is the correct choice here. The answer can be deduced from the paragraph 2 where the text is quoted directly as, "The AAARs have held that setting up of solar projects are covered under the classification of works contract as they consist of supply of goods and services packaged into an immovable property." They held that because of this, these projects are liable to be taxed at 18% that applies to works contracts.

**92. (d);** The appropriate answer here is option (d). Refer to the third paragraph where it is given that over years, massive fluctuations have been observed in the prices and availability of coal which led to high litigation cost and increase in the power rate due to which several projects were landed in debt trap. Hence industry executives fear that the same could happen in the solar sector if there is no stability on tariff and clarity on regulations.

**93. (b);** Refer to the last paragraph where it is given that the intense competition in recent years has driven down the solar power tariff as discovered in the solar project auctions. Furthermore, the text is highlighted as, "The factors that helped producers to bid projects aggressively include the lower price of imported solar panels and efficient financial structuring of projects."

**94. (e);** The given statement [A] is grammatically correct and contextually meaningful. Hence, it does not require any corrections. Therefore, option (e) is the most suitable answer choice.

**95. (a);** The given statement [B] judges the future of the solar project industry by finding its similarities with the coal power industry in the policy formulation. Since, option (a) provides information on the instability of the tariff and cost in solar industry just like coal power industry, it strengthens the given statement. All the options are irrelevant in context of statement [B]. Hence, option (a) is the most suitable answer choice.

**96. (d);** The most appropriate clause that will complete the sentence to frame it in a correct contextual and grammatical manner is **"for at least three years and five years respectively, against the existing norm of one year"**. The sentence is describing about the Supreme Court directive to make the owners of new car and two wheeler purchase insurance covers. Since, it's a new directive, option (d) perfectly fits the blank as it describes the earlier as well as the improvised time period for which the insurance must be covered. All the other options are incoherent to the context of the sentence. Hence, option (d) is the most suitable answer choice.

**97. (b);** The most appropriate clause that will complete the paragraph is "**92% of the people belonging to the community are subjected to economic exclusion.**" The paragraph is describing about a survey conducted of the transgender community by the NHRC. Since the previous clause mentions"...found that", the latter part must express the outcome or the findings of the survey. This rationale is satisfied by only option (b). Options (a) and (c) are contextually incorrect while option (d) is grammatically incorrect. Therefore, option (b) is the most suitable answer choice.

**98. (a);** The most appropriate clause that will complete the paragraph is option (a) "**as reported by the media recently, has escalated the contention"** as the initial part of the paragraph has mentioned about the accumulated unfilled jobs in the public sector. Part (A) of the paragraph acts as a cause for the effect mentioned in option (a). All the other options are either grammatically incorrect or contextually meaningless. Hence, option (a) is the most suitable answer choice.

**99. (c);** The most appropriate clause that fills the blank of the paragraph is option (c) "**Emerging market economies continue to be in the spotlight for the wrong reasons**" as it acts as a perfect introduction for the paragraph. The paragraph is pointing out the devaluation of the rupee against the dollar; therefore, option (c) will aptly introduce the paragraph stating the fall of emerging market economies. However, option (a) and (d) are contextually meaningless, while, option (b) is grammatically incorrect. Hence, option (c) is the most suitable answer choice.

**100. (b);** The most appropriate phrase that completes the paragraph coherently is "**is vulnerable to several natural hazards**", as the paragraph is describing about the about the geographical characteristics of Kerala which makes it vulnerable foe several natural hazards. The latter part of the paragraph already states the hazards that are prone to Kerala, therefore, the phrase "is vulnerable to several natural hazards" aptly fits in the blank. All the other phrases are irrelevant to the context of the sentence. Hence, option (b) is the most suitable answer choice.

**101. (e);** All the three starters can be used to frame a meaningful sentence without altering the intended meaning of the given sentences. Hence option (e) is the correct choice.
 (i) Given how unmanned or remotely piloted aircraft, commonly known as drones, hold immense promise for various commercial applications, the government has done well to set up a regulatory framework for drone operations, including commercial use.
 (ii) Since unmanned or remotely piloted aircraft, commonly known as drones, hold immense promise for various commercial applications, the government has done well to set up a regulatory framework for drone operations, including commercial use.
 (iii) Provided that unmanned or remotely piloted aircraft, commonly known as drones, hold immense promise for various commercial applications, the government has done well to set up a regulatory framework for drone operations, including commercial use.

**102. (a);** Only starter (i) can be used to frame a meaningful sentence without altering the exact meaning of the given sentences. However, it is not possible to construct a contextual sentence using the third and second starter as they would alter the intended meaning. Hence option (a) is the correct choice.
 (i) Convincing people to buy insurance for the expected life of the vehicle at the time of purchase, as in the case of road tax, interferes with the need to set premium based on data relating to safety and diligence of the driver, which would change over time.

**103. (d);** Both the starters (i) and (ii) can be used to frame a meaningful sentence without altering the exact meaning of the given sentences. However, it is not possible to construct a contextual sentence using the third starter as it would alter the intended meaning. Hence option (d) is the correct choice.
 (i) Unless the country finds viable and sustainable replacements for its energy needs, international oil price movements will continue to be an important fault line in India's political economy.
 (ii) Except that the country finds viable and sustainable replacements for its energy needs, international oil price movements will continue to be an important fault line in India's political economy.

**104. (b);** The most appropriate set of words that fills the blanks of the paragraph is "diversity, subsumed, legitimacy". "diversity" provides the precise context as it means a range of different things. Moreover, 'subsumed' means include or absorb (something) in something else; while 'legitimacy' means conformity to the law or to rules. All the other words are incoherent and fail to make the paragraph comprehensive. Hence, option (b) is the most suitable answer choice.
Socialism means a political and economic theory of social organization which advocates that the means of production, distribution, and exchange should be owned or regulated by the community as a whole.
Invigorated means give strength or energy to.
Astuteness means of keen penetration or discernment; sagacious: an astute analysis. clever; cunning; ingenious; shrewd

**105. (d);** The most appropriate set of words that fills the blanks of the paragraph is "ferrying, probe, glitch". "Ferrying" provides the precise context as it means transport from one place to another on short or regular trips. Moreover, 'probe' means a thorough investigation into a crime or other matter; while 'Glitch' means a sudden, usually temporary malfunction or fault of equipment. All the other words are incoherent and fail to make the paragraph comprehensive. Hence, option (d) is the most suitable answer choice.
Gremlin means an imaginary mischievous sprite regarded as responsible for an unexplained mechanical or electronic problem or fault.
Barging means move forcefully or roughly.

**106. (c);** The most appropriate set of words that fills the blanks of the paragraph is "contemporary, supplanting, "disconcerting". "Contemporary" provides the precise context as it means belonging to or occurring in the present. Moreover, 'supplanting' means supersede and replace; while

'Disconcerting' means causing one to feel unsettled. All the other words are incoherent and fail to make the paragraph comprehensive. Hence, option (c) is the most suitable answer choice.

Posterior means coming after in time or order; later

Superseding means take the place of (a person or thing previously in authority or use); supplant.

Bewildering means confusing or perplexing.

**107. (d);** The most appropriate set of words that fills the blanks of the paragraph is "interdicted, consolation, prosecutorial". "interdicted" provides the precise context as it means prohibit or forbid (something). Moreover, 'consolation' means the comfort received by a person after a loss or disappointment; while 'prosecutorial' means relating to the institution and conducting of legal proceedings against someone in respect of a criminal charge. All the other words are incoherent and fail to make the paragraph comprehensive. Hence, option (d) is the most suitable answer choice.

Disdain means the feeling that someone or something is unworthy of one's consideration or respect.

Legitimate means conforming to the law or to rules.

Suppressed means forcibly put an end to.

**108. (d);** Drawing a hint from the fourth sentence of the rearranged paragraph, it can be understood that it is describing about a study which reveals the data reflecting the increased pollution in the rivers in the entire nation. It further mentions about the problems associated in controlling pollution. It should be noted that statement (B) appropriately introduces the paragraph by providing the data about the increase in the segments of river pollution. Statement (D) follows statement (B) as it mentions about the data mentioned in the previous statement indicating that the laws have not been implemented properly. Sentence (F) begins with the phrase "The study also…" which indicates that in the previous sentence the study has been mentioned. Hence it should follow sentence (D). Sentence (A) is the fourth sentence of the rearranged paragraph. Next is sentence (E) as it logically connects with sentence (A). Sentence (C) stands as the concluding part of the rearranged paragraph. The phrase in the statement (C) "It is notable that these results…" provides a clue for the conclusion of the paragraph. Hence, the logical sequence thus formed is, BDFAEC. Since, statement (D) is the second sentence in the rearranged paragraph, option (d) becomes the most suitable answer choice.

**109. (b);** Drawing a hint from the fourth sentence of the rearranged paragraph, it can be understood that it is describing about a study which reveals the data reflecting the increased pollution in the rivers in the entire nation. It further mentions about the problems associated in controlling pollution. It should be noted that statement (B) appropriately introduces the paragraph by providing the data about the increase in the segments of river pollution. Statement (D) follows statement (B) as it mentions about the data mentioned in the previous statement indicating that the laws have not been implemented properly. Sentence (F) begins with the phrase "The study also…" which indicates that in the previous sentence the study has been mentioned. Hence it should follow sentence (D). Sentence (A) is the fourth sentence of the rearranged paragraph. Next is sentence (E) as it logically connects with sentence (A). Sentence (C) stands as the concluding part of the rearranged paragraph. The phrase in the statement (C) "It is notable that these results…" provides a clue for the conclusion of the paragraph. Hence, the logical sequence thus formed is, BDFAEC. Since, statement (C) is the last sentence in the rearranged paragraph, option (b) becomes the most suitable answer choice.

**110. (e);** Drawing a hint from the fourth sentence of the rearranged paragraph, it can be understood that it is describing about a study which reveals the data reflecting the increased pollution in the rivers in the entire nation. It further mentions about the problems associated in controlling pollution. It should be noted that statement (B) appropriately introduces the paragraph by providing the data about the increase in the segments of river pollution. Statement (D) follows statement (B) as it mentions about the data mentioned in the previous statement indicating that the laws have not been implemented properly. Since, statements (B) and (D) forms a perfect pair, option (e) becomes the most suitable answer choice.

**111. (d);** Salubrious means (of a place) pleasant; not run-down while Salutary means (especially with reference to something unwelcome or unpleasant) producing good effects; beneficial. Since they both are synonyms of each other, option (d) becomes the most suitable answer choice.

Exorbitant means (of a price or amount charged) unreasonably high.

Quandary means a state of perplexity or uncertainty over what to do in a difficult situation.

Enigma means a person or thing that is mysterious or difficult to understand.

**112. (e);** CAMOUFLAGE means hide or disguise the presence of (a person, animal, or object) by means of camouflage while CANDID means truthful and straightforward; frank. Since, they both are antonyms of each other; option (e) is the most suitable answer choice.

Debunk means expose the falseness or hollowness of (an idea or belief).

Indignant means feeling or showing anger or annoyance at what is perceived as unfair treatment.

Vapid means offering nothing that is stimulating or challenging; bland.

**113. (d);** Statements (a), (b) and (c) imply the following:
- (i) Two months are left for the State Assembly elections;
- (ii) Extensive inconsistencies or widespread discrepancies have been detected in the electoral rolls of Rajasthan.
- (iii) There are doubts that the names of **many** legitimate voters have been struck off the lists.

But first of all, there is a grammatical error in the statement (d) which is the following:

The subject of the sentence of the statement (d) is 'removal of names of a few legitimate voters from the voter lists' which is **singular**. The subject, having **singular noun**, of the sentence is followed by the **auxiliary verb** 'have', which is used for a subject having **plural noun**.

Also, there are following contextual errors in the statement (d):
- (i) Removal of the names of a few legitimate voters;
- (ii) widespread **consistencies** in the electoral rolls of Rajasthan.
- (iii) No mention of the phrase 'two months ahead of the State Assembly elections' or an equivalent to convey when would the Assembly elections would be held in Rajasthan.

Hence, option (d) is the correct answer because it is the only **incorrect** sentence.

**114. (b);** The two events happening are:
- (i) The Shiromani Akali Dal-BJP combine has decided to meet the Governor over the 'deteriorating law and order' situation in the state of Punjab.
- (ii) Punjab Chief Minister Amarinder Singh emphasized on Monday that nobody involved in sacrilege cases would be spared.

The statements (a), (c) and (d) starts with a conjunction or conjunction-phrase which are synonyms i.e., While, 'At the time as' and 'During the time that' are synonyms. They convey the same meaning that two events are occurring simultaneously.

But, the usage of the conjunction 'because' in the statement (b) implies that one event is causing another event to occur.

So, while the statements (a), (c) and (d) suggest that the events (i) and (ii) are occurring simultaneously and a sort of independently, the statement (b) suggests that the event (ii) has caused the event (i) to occur. So, contextually, statement (b) conveys a different meaning as compared to that conveyed by the statements (a), (c) and (d).

Hence, option (b) is the correct answer.

**115. (a);** The sentences (b), (c) and (d) are conveying the following:
- (i) The AAP has reached out to ex-Punjab convener Sucha Singh Chhotepur.
- (ii) The AAP wishes to make peace with "rebels" and "former leaders".
- (iii) Mr. Sucha Singh Chhotepur was being approached by AAP two years after he was sacked on charges of taking bribe for allotting party tickets.

The above sentences (sentences (b), (c) and (d)) are suggesting that meeting with Sucha Singh Chhotepur was a part of an effort to make peace with "rebels" and "former leaders", but the sentence (a) suggests that AAP has already made (and completed) efforts to make peace with "rebels" and "former leaders", or the AAP has reached out to ex-Punjab convener Sucha Singh Chootepur after making (all) the efforts to make peace with "rebels" and "former leaders".

The meaning conveyed by the statement (a) is different from that conveyed by the statements (b), (c) and (d).

Moreover, the sentence (a) has a grammatical error. The subject of the sentence is a singular noun 'The AAP' which is followed by an auxiliary verb 'have' which is used for plural noun.

Hence, the correct answer is the option (a).

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