Direction (1-5): Answer the questions based on the information given below. Not Covered (Will cover this model in upcoming mains mock test)

Six persons joined the ABC organization in 2017. All are joined on different dates of either the same or different month. Each of them already has some working experience. One of them joins on 18th July. Less than two persons joined before E who has an experience in even number. The number of persons joined before E is same as after the one whose experience is 13 years. B who does not have experience in prime number, joined before the one whose experience is 16 years but after the one whose experience is 5 and 9 years. The one whose experience is 5 years joins before the one whose experience is 9 years who joins on 24th May. D has an experience twice that of E's Experience. The number of persons joins between the one whose experience is 5 years and B is the same as between the one whose experience is 9 years and D who joins in the organization on 27th September. A joins after C but before F. The one who joins on 26th July joined before D but after B. The one whose experience is 10 years joined after the one who joined the organization on 12th January which is not the joining date of E. B does not join on 15th January.

Based on their working experience a foreign company XYZ gives the project with certain conditions:

1. The project is given to those people having experience minimum of 3 years after joining the ABC Organization (Calculate their experience on the following date 31st august 2020).

2. The project is given to the persons who joins the organization at first according to the month.

3. If two persons join in the same month then give priority to the one who joins the organization first according to date.

1) Which among the following is the order of the people who get the project?

a) CEABF

b) BFACE

c) FCEBA

d) FECBA

e) None of these

Answer: A

2) If the project is given according to the only date of joining of the people then how many persons remain unchanged in their positions?

a) None

b) **3**

c) 2

d) 1

e) 4

Answer: B

3) Who among the following has maximum working experience as before the joining of this organization?

a) A

b) B

c) C

d) E

e) None of these

Answer: E

4) How many persons joined after F?

a) 1

b) 2

c) 3

d) 4

e) None of these

Answer: A

5) If the company appointed a CEO who has an experience minimum of 10 years, then who will be the CEO?

a) B

b) D

c) E

d) Either a or b

e) Either B or C

Answer: D

Final Arrangement:

Explanation:

- Less than two persons joined before E who has an experience in even number.

- The number of persons joined before E is same as after the one whose experience is 13 years.

- B who does not have experience in prime number, joined before the one whose

experience is 16 years but after the one whose experience is 5 and 9 years.

- The one whose experience is 5 years joins before the one whose experience is 9 years who joins on 24th May.

- A joins after C but before F.
- The one who joins on 26th July joined before D but after B. Hence Case-2 gets eliminated

- The number of persons joins between the one whose experience is 5 years and B is the same as between the one whose experience is 9 years and D who joins in the organization on 27th September.
- D has an experience twice that of E's Experience.

- The one whose experience is 10 years joined after the one who joined the organization on 12th January which is not the joining date of E.
- B does not join on 15th January.

Conditions:

The project is given to those people having experience minimum of 3 years after joining the ABC organization (Calculate their experience on the following date 31ˢᵗ august 2020).

- Other than D, all persons getting the project (**since D joined in September so working experience can't be 3 years**)

The project is given to the persons who joins the organization at first according to the month.

- By comparing months the following sequence is obtained.

  C/E A B/F

If two persons join in the same month then give priority to the one who joins the organization first according to date.

- By comparing Date and month the following sequence is obtained.

Direction (6-7): Each of the questions below consists of a question and two statements numbered I and II given below it. (Covered in most number of Mains mock test)

A#B means B is the father of A

A?B means A is the daughter of B

A&B means B is the son of A

A!B means A is the mother of B

A%B means A is the husband of B

Along with the given two statements, three statements are given you have to decide whether the data provided along with the three statements are sufficient to answer the question. The statements given below can be used along with the above two statements but cannot be combined together. The statements above are combined.

6) Statement I: T#R&Q&U, S?E!P,

Statement II: V!U, T%I?A, S!Q

How is P related to R?

i: S?G%E, A!D#W

ii: S?G%E, G&P

iii: T#R%S,S?E!P

a) Only ii

b) Only i

c) Either only i or only ii

d) Either only i or only iii

e) Only iii

7) Statement I: M%R!D; V#D; V%H&U; M&I

Statement II: I%Y!W

What is K related to R?

I: Y?S%A

II: Y!Z#I, D%K

III: K&V%H, K?P

a) Only II

b) Only I

c) Either only I or only II

d) Either only II or only III

e) Only III

Direction (6-7):

6. Answer: A

Explanation:

From statement I and statement II and ii we get;

K is the daughter-in-law of R

from statements I and II and iii we get:

So, P is the brother in law of R.

7.Answer: D

Explanation:

From statements I and II and with ii we get:

K is the daughter-in-law of R.

Direction (8-12): Study the given information and answer the following questions. - Covered - IBPS PO Mains Set 4- Q (25-26), RRB PO Mains Set -6 -Q (34-38),

Eight persons sit around a square table such that four of them sit at the middle of each side and four of them sit at the corners. All of them face outside. A boundary is made around the table with 6 inches gap between the table and a boundary around each side of the table. Four of the persons sitting in the middle of the boundary and four sit at the corner of the boundary. All the persons sitting around the boundary face inside.

Two persons sit between B and the one who faces Q. B faces inside. S sits immediate right of the one who faces B. Three persons sit between the one who sits immediate right of the one who faces S and V. E faces D who sits second to the left of V. E sits at the corner of the table and adjacent to K. T sits third to the left of the one who faces K. Y sits on the boundary but not adjacent to T. The person who faces L sits second to the right of Q. W faces R who sits second to the left of O. One person sits between F and E. F does not face V. G does not face T. C sits second to the left of G.

8) Which of the following statement is not true?

I. W sits at the inner table

II. V faces C

III. K sits third to the right of G.

(a) Both I and II

(b) Both I and III

(c) Only II

(d) All I, II and III

(e) None of these

9) How many persons sit between the one who faces K and Y when counted from the left of Y?

(a) Two

(b) Three

(c) One

(d) None

(e) Four

10) What is the position of O with respect to the person who faces F?

(a) Immediate right

(b) Second to the left

(c) Immediate left

(d) Third to the right

(e) None of these

11) Which of the following statement is true?

(a) Three persons were sitting between F and W

(b) R sits immediate left of V

(c) S faces T

(d) B sits immediate right of Y

(e) None of these

12) If Q is related to O, in the same manner, K is related to R then how is S related to?

(a) F

(b) D

(c) R

(d) Y

(e) None of these

Direction (8-12):

8. Answer: C

9. Answer: C

10. Answer: C

11. Answer: E

12. Answer: D

Final Arrangement:

Explanation:

Direction (8-12):

Sol. From the given statements,

- Two persons sit between B and the one who faces Q. B faces inside. S sits immediate right of the one who faces B.

- Three persons sit between the one who sits immediate right of the one who faces S and V. so we have four possible cases i.e. case-1, case-2, case-3 and case-4;

- E faces D who sits second to the left of V. E sits at the corner of the table and adjacent to K. So, case-1 and case-3 is eliminated.

- T sits third to the left of the one who faces K. Y sits on the boundary but not adjacent to T.

- The person who faces L sits second to the right of Q. W faces R who sits second to the left of O. so case-4 is eliminated.

- One person sits between F and E. F does not face V. G does not face T. C sits second to the left of G.

So final arrangement is

d) Q#@G

e) G%T

13) Answer: e
Solution:

Directions (13): Study the following information carefully and answer the below questions - covered - SBI PO Mains Set 6- Q (25-26), SBI PO Mains Set 7- Q (37-39),

A%B (10) →A is 25m North of B

A#B (12) → A is 27m South of B

A@B (45) → A is 30mWest of B

A&B (18)→A is 3m East of B

Note: A#@B means A is southwest of B

R%@Q, Q&P(25), P%V(5), V@G(43), W#R(29), W@T(38), T#G

13) Which of the following statement is true?

a) W%@V

b) R%&T

c) T#P

Direction (14-18): Study the given information and answer the following questions. Covered - Express video course - High level Puzzle and seating arrangement– Puzzle → video - Month with date single variable

Twelve persons were born in six months i.e. January, March, June, August, September and October on two different dates i.e. 3 and 18 in the same year.

The Persons whose name starts with a letter which comes before 'M' in alphabetical series was born in the first half of the year i.e. from January to June. The person whose name starts with a letter which comes after 'M' in the alphabetical series was born in the second half of the year i.e. June to December.

The person whose name has an even number of letters was born in the month which has an odd number of days and the person whose name has an odd number of letters was born in the month which has an even number of days.

Four persons were born between Hina and Pearl. Two persons were born between Pearl and Vidhya. Deepak and Babita were born in the same month. The number of persons born between Deepak and Pearl is the same as the number of persons born between Vidhya and Jignesh. The number of persons born before Faizal is one more than the number of persons born after Teesta. Teesta was born immediately after Sampark. The number of persons between Pearl and Kiran is the same as the number of persons between Teesta and Om. Raavanya was born on an odd-numbered date.

14) Who among the following was born in October?

I. Teesta

II. Vidhya

III. Sampark

(a) Both I and III

(b) Both I and II

(c) Only I

(d) All I, II and III

(e) None of these

15) Which of the following is correctly matched?

(a) October-3-Vidya

(b) June-3- Raavanya

(c) September 18-Pearl

(d) January-18-Deepak

(e) March-3-Hina

16) Number of persons who were born before Jignesh is two more than the number of persons who were born after_?

(a) The one who was born on 3 March

(b) The one who was born on 3 June

(c) The one who was born two persons before Teesta

(d) The one who was born immediately after Pearl

(e) None of these

17) Which of the following is true?

(a) Three persons were born between Sampark and Kiran

(b) Pearl was born on 3 September

(c) Jignesh was born immediately after Hina

(d) Babita was born on January

(e) All are correct

18) Who among the following was born after Faizal?

I. The one who was born immediately before Deepak

II. The one who was born on 3 January

III. Pearl

(a) Only II

(b) Both I and III

(c) Only III

(d) Both II and III

(e) None of these

Direction (14-18):

14. Answer: B

15. Answer: D

16. Answer: D

17.Answer: E

18.Answer: C

Final Arrangement:

Explanation:

- Four persons were born between Hina and Pearl. Two persons were born between Pearl and Vidhya.

- Vidhya and Pearl were born after June because the name starts with V and P. Hina was born before June as the name starts with 'H'.

- Deepak and Babita were born in the same month. The number of persons born between Deepak and Pearl is the same as the number of persons born between Vidhya and Jignesh.

- The number of persons born before Faizal is one more than the number of persons born after Teesta.
- Teesta was born immediately after Sampark. The number of persons between Pearl and Kiran is the same as the number of persons between Teesta and Om.
- Raavanya was born on an odd-numbered date.

Input: Jailer 58 Abide 93 64 Fabric 19 Eighth Hanged 35 86 Maiden

Step I: ebida 92 Jailer 58 64 Fabric 19 Eighth Hanged 35 86 Maiden

Step II: highte 87 ebida 92 Jailer 58 64 Fabric 19 Hanged 35 Maiden

Step III: ricfab 65 highte 87 ebida 92 Jailer 58 19 Hanged 35 Maiden

Step IV: gedhan 59 ricfab 65 highte 87 ebida 92 Jailer 19 35 Maiden

Step V: lerjai 34 gedhan 59 ricfab 65 highte 87 ebida 92 19 Maiden

Step VI: denmai 18 lerjai 34 gedhan 59 ricfab 65 highte 87 ebida 92

Step VI is the last step.

Input: Unity 38 79 centre 62 invert 29 mental 34 wakeup 69 outfit

19) What is the difference between the fifth element from the right end in step V and the second number from the left end in step VI?

a) 36

b) 33

c) 32

d) 45

e) None of the above

20) What is the position of "trecen" in step III?

a) Second from the left end

b) Eighth from the right end

c) Second from the right end

d) Fourth from the left end

e) None of the above

21) How many words end with the vowel in the last step?

a) One

b) Two

c) Four

d)Three

e) None of the above

22) How many elements are there between "68" and "tutfio" in Step IV?

a) One

b) Three

c) Four

d) None

e) Two

23) Which among the following elements is third to the right of the fourth element from the left end in step V?

a) 63

b) tnveri

c) ynitu

d) 35

e) trecen

Directions (19-23):

19.Answer: B

20.Answer: B

21.Answer: D

22.Answer: C

23.Answer: B

Explanations:

Logic:

Words: Words are arranged in alphabetical order from left to right.

If the word starts with a vowel: the first and last letters of the word are interchanged.

If the word starts with a consonant: the position of the first three letters and the position of the last three letters are interchanged.

Numbers: Numbers are arranged in descending order from left to right

If the number is even: add 1 to the number

If the number is odd: subtract 1 from the number

Input: Unity 38 79 centre 62 invert 29 mental 34 wakeup 69 outfit

Step I: trecen 78 Unity 38 62 invert 29 mental 34 wakeup 69 outfit

Step II: tnveri 68 trecen 78 Unity 38 62 29 mental 34 wakeup outfit

Step III: talmen 63 tnveri 68 trecen 78 Unity 38 29 34 wakeup outfit

Step IV: tutfio 39 talmen 63 tnveri 68 trecen 78 Unity 29 34 wakeup

Step V: ynitu 35 tutfio 39 talmen 63 tnveri 68 trecen 78 29 wakeup

Step VI: eupwak 28 ynitu 35 tutfio 39 talmen 63 tnveri 68 trecen 78

Directions (24-28): Study the following information carefully and answer the below questions -covered - Express video course - High level puzzle and seating arrangement –Puzzle → video -Floor puzzle with two variable

Seven persons i.e. M, N, O, P, Q, R and S are living in a seven storey building with seven different floors such that the ground floor is numbered as 1, the floor just above the ground floor is numbered as 2 and so on till the topmost floor is numbered as 7. They all go to different countries i.e. Italy, China, London, Sri Lanka, Austria, India and Japan. All the information is not necessarily in the same order.

M neither goes to Sri Lanka nor lives just above O's floor. P lives below R. N goes to London and lives on floor number 3. Three persons live between the one who goes to India and the one who goes to China. S is from Italy and lives on a floor adjacent to Q's floor. The one who goes to India lives on an even-numbered floor. Two persons live between the floors on which the person who goes to Japan and the person who goes to Sri Lanka live. Q neither goes to Japan nor goes to Sri Lanka. O is from Japan and lives above the one who goes to China.   O doesn't live on the topmost floor. The person who goes to London lives on a floor below the person who goes to Sri Lanka and Japan. Q doesn't live adjacent to the one who belongs to Sri Lanka and Japan.

24) Which among the following statements is true?

a) Three persons live between the one who goes to Austria and Q

b) R lives on an even-numbered floor

c) S lives just below the one who lives just below N's floor

d) The one who goes to Japan lives above R

e) All are true

25) Four of the following five are alike in a certain way and thus form a group. Which among the following doesn't belong to the group?

a) P- Sri Lanka

b) O- India

c) N-Austria

d) Q-Japan

e) M- India

26) Who amongst the following lives on an odd-numbered floor?

a) The one who goes to India

b) O

c) The one who goes to Italy.

d) Q

e) None of the above

27) Who among the following lives on the floor 5th?

a) The one who goes to Italy

b) R

c) The one who goes to Japan

d) The one who lives just above the one who goes to Japan

e) None of the above

28) Which among the following statement is not true?

a) The one who goes to India lives on the 5th floor

b) O lives on an even-numbered floor

c) The one who goes to London lives on an odd-numbered floor

d) No one lives above R

e) The one who goes to Italy lives on the bottommost floor

Directions (24-28):

24.Answer: C

25.Answer: E

26.Answer: C

27.Answer: D

28. Answer: A

Final arrangement:

Explanation:

- N goes to London and lives on floor number 3. Three persons live between the one who goes to India and the one who goes to China.

- The one who goes to India lives on an even-numbered floor. So, here we have two possible cases i.e. case1 and case 2.

- Two persons live between the floors on which the person who goes to Japan and the person who goes to Sri Lanka live.

- The person who goes to London lives on a floor below the person who goes to Sri Lanka and Japan.

- S is from Italy and lives on the floor adjacent to Q's floor.
- Q neither goes to Japan nor goes to Sri Lanka.
- Q doesn't live adjacent to the one who belongs to Sri Lanka and Japan.

- O is from Japan and lives above the one who goes to China.
- O doesn't live on the topmost floor. From these conditions case 2 gets eliminated.
- M neither goes to Sri Lanka nor lives just above O's floor. P lives below R. So the final arrangement is:

Eight persons i.e. A, B, C, D, E, F, G and H are working in three different departments which are Production, Management and Finance at different posts i.e. manager and general manager. In the finance department, only a manager post is available. They all have different ages. The age of the one who is a general manager is an odd number and the age of the person who is a manager is an even number. The age of each person is less than 90 years. The age of all of them is in a whole number. All the information is not necessarily in the same order. Minimum one person and maximum of two persons are at each post of the given department.

Note: If it is given that the person who is a general manager or manager works with A or the one whose age is 65 then it indicates that both the person works in the same department but not necessarily at the same post.

A is a general manager and works with E. B is 31 years old and doesn't work with A. The one whose age is 60 years old works with C. G is 53 years old and works with A. C neither works in management department nor works in production department. The age of D is equal to the sum of the ages of B and G. The one who works with D is 2 years older than A. F's age is less than H. The difference between the ages of D and F is 48. F doesn't work in management department. F and D works in different departments. E's age is twice of C's age. The difference between the ages of C and H is 36. A's age is less than 50.

29) Who among the following works in the production department?

a) The one who is 29 years old

b) The one who works with H

c) The one who works with F at the same post

d) B

e) Both (a) and (c)

30) Four of the following five are alike in a certain way and thus form a group. Which among the following doesn't belong to the group?

a) A

b) G

c) B

d) E

e) F

31) Which among the following statement is true?

a) The one who is 24-year-old works in finance

department

b) A works in management department

c) G is a manager

d) Both (a) and (e)

e) Sum of A and C age is less than 52

32) What is the sum of the ages of the persons who

work in management department?

a) 120

b) 221

c) 117

d) 115

e) None of the above

33) How many persons age is more than H?

a) Four

b) One

c) Six

d) Two

e) Three

Directions (29-33):

29.Answer: E

30.Answer: C

31.Answer: A

32.Answer: D

33.Answer: B

Final Arrangement:

Explanation:

- A is a general manager and works with E. So, here we have four possible cases.

- B is 31 years old and doesn't work with A.

- The one whose age is 60 years old works with C. C neither works in management department nor works in production department.

- G is 53 years old and works with A. So, case 1 and case 3 get eliminated because Minimum one person and maximum of two persons are at each post of the given

department and the age of the one who is a general manager is an odd number.

- The age of D is equal to the sum of the ages of B and G which means D is 84 years old and at manager post (manager age is an even number).

- The difference between the ages of D and F is 48. F doesn't work in management department. F and D works in different departments. F's age is less than H.

- The one who works with D is 2 years older than A. A's age is less than 50. So, case 2 gets eliminated here because both G and E works with D and E's age can't be an odd number and A's age can't be 51.

- E's age is twice of C's age. The difference between the ages of C and H is 36. And the final arrangement is:

Statement1: In the code language 'first friend meet him' is coded as ' fg ty ki ad', 'hello can we meet' is coded as 'gh jk ki cx'. 'also refer him friend' is coded as 'lm rk ad fg'

Statement2: 'We dont meet him' is coded as 'cx db ki ad'. 'true teacher can meet' is coded as 'tu lo jk ki'. 'assigning we can hello' is coded as 'ae cx jk gh'.

Along with the given two statements, three statements are given. You have to decide whether the data provided along with the three statements are sufficient to answer the question. The statements given below can be used along with the above two statements but cannot be combined together. The statements above are combined.

34) What is the code of "first meet assigning leader" in the given code language?

I: In the code language 'leader faith can meet' is coded as 'ar ft jk ki'.

II: In the code language 'language leader can use' is coded as 'hj ar jk vc'

III: In the code language 'leader can meet' is coded as 'ar jk ki'.

a) Only III

b) Only I

c) Either only I or only II

d) Either only I or only III

e) Only II

35) What is the code of "true leader can" in the given code language?

I: In the code language 'leader fights back' is coded as 'ar zx jn'.

II: In the code language 'survive leader true' is coded as 'ar tu sq'

III: In the code language 'purpose of leader' is coded as 'pr as ar'.

a) Only II

b) Only III

c) Either only I or only II

d) Either only II or only III

e) None of these

36) What is the code of "right friend true" in the given code language?

I: In the code language 'true friend right' is coded as 'tu fg ko'.

II: In the code language 'leader friend teacher' is coded as 'ar fg lo '

III: In the code language 'true him right' is coded as 'tu ad ko'.

a) Either only I or only III

b) Only III

c) Either only II or only III

d) Either only I or only II

e) None of these

Direction (34-36):

34. Answer: A

Explanation: In this case, only III gives the following code;

leader-ar; so "first meet assigning leader" is coded as-ty ki ae ar

35. Answer: E

Explanation: In this case, none of the given statements can give answer.

36. Answer: A

Explanation:

In this from I we get following code-

true-tu, right -ko

From III we get codes-

true-tu, right-ko

so "right friend true" is coded as-ko fg tu

Common Solution (34-36):

From statement I and II we have the following code;

Direction (1 – 3): Read the following information carefully and answer the questions based on it.

A train is going from station S1 to S2 via Station S3 and S4 on Day 1 and Day 2. The average speed of train on day 1 and day 2 is 150 km/h and 187.5 km/h and the time taken by train to go from S1 to S3 on day 1 is 3 hours less than day 2. Time taken by train to go from S3 to S4 on both the days is same. Time taken by train to go from S4 to S2 on day 2 is 9 hours less than that on day 1. The distance between S4 and S2 is 66.66% more than the distance between S1 and

S3. The distance between S3 and S4 is 10% less than the distance between S4 and S2.

1) Find the time taken by train to cover the distance from station S1 to station S2 on day 2?

a) 30 hours

b) 16 hours

c) 24 hours

d) 32 hours

e) Can't be determined

2) Find the difference between the distance from station S1 to S3 and distance from station S4 to S2?

a) 720 km

b) 480 km

c) 630 km

d) 640 km

e) None of these

3) On day 1, the speed of train between stations S4 and S2 and between stations S3 and S4 is in the ratio of 2:3 and the time taken to cover the distance from S3 to S4 is 6 hours less than the time taken to travel from station S4 to S2. Find the speed of the train while travelling from S4 to S2?

a) 80 km/h

b) 120 km/h

c) 40 km/h

d) 60 km/h

e) None of these

Direction (4 – 9): Read the following information carefully and answer the questions based on it.

The following table gives partial information about the number of students pursuing Masters from the Indian Institute of Management, Ahmedabad (IIM A). Students are categorized as engineers and non – engineers based on their graduation background.

Total students = total male students + total female students

City	% of engineers	Number/% of male engineers out of total engineers	Number/% of male non – engineers out of non-engineers	Total number of female
Delhi	68%	2448	25%	1968
Mumbai	88%	75%	41.66%	-
Bangalore	92%	3588	62.5%	-
Assam	80%	68.75%	37.5%	-
Calcutta	78%	1896	40%	2208

4) In Mumbai, the number of male students is how much % more/less than the number of female students?

a) 143.82%

b) 142.82%

c) 145.82%

d) 144.82%

e) None of these

5) Find the total number of students belongs to Calcutta?

a) 4800

b) 5000

c) 4500

d) 5200

e) None of these

6) Find the difference between the total male students belongs to Delhi and the number of male engineers belongs to Bangalore?

a) 776

b) 786

c) 754

d) 766

e) None of these

7) For Bangalore, engineering female students pursuing masters in two branches Marketing and Finance. The difference between the number of females pursuing masters in Marketing and Finance is 132. The number of females pursuing masters in Finance is 200% more than the number of male non engineers. Find the total number of students who belongs to Bangalore?

a) 4800

b) 6000

c) 5400

d) 6400

e) None of these

8) For Assam, if the difference between total male students and female students is 3300, find the number of female non – engineers in Assam?

a) 1950

b) 1650

c) 3300

d) 1750

e) None of these

9) Find the difference between the number of male engineers and the number of female engineers in Delhi?

a) 1622

b) 1672

c) 1632

d) 1682

e) None of these

Direction (10 – 12): Read the following information carefully and answer the questions based on it.

In a college, there are two streams, A and B. The number of girls in stream B is 90 more than thrice the number of girls in stream A and the number of boys in stream B is 50% of the sum of the total number of students in stream A.

10) If the number of girl students in stream B is 360 and the total number of students in stream B is 90 less than twice the number of students in stream A, then find the number of boys in stream B?

a) 150

b) 180

c) 120

d) 200

e) None of these

11) Find the difference between the sum of 200% of the number of boys in stream A and girls in stream A and the number of girls in stream B?

a) 120

b) 240

c) 180

d) 150

e) Can't be determined

12) Find the value of (X – Y), where

X = 300% of the number of boys in stream A + number of boys in stream B

Y = number of girls in stream A + number of girls in stream B

a) 330

b) 450

c) 320

d) 230

e) Can't be determined

Directions (13 – 15): Read the following information carefully and answer the questions based on it.

The following given pie charts give information about the percentage distribution of the total number of chocolates manufactured by the four different companies and % distribution of white chocolates manufactured by the four companies. Total number of chocolates manufactured = Brown chocolates + White chocolates.

% Distribution of total number of chocolates manufactured

A B C D
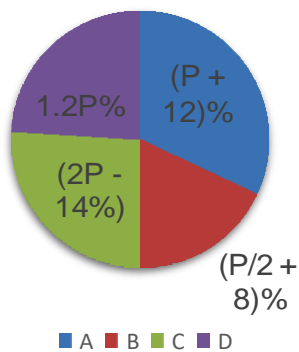
% Distribution of number of White Chocolates Manufactured

A B C D
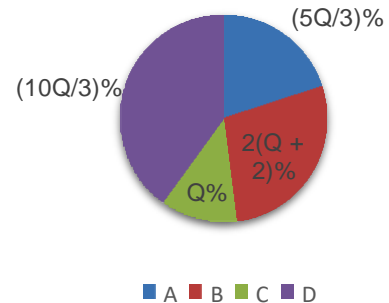
Note: Number of brown chocolates in companies B and D is 3040 and 3520 respectively.

13) Find the ratio of the total number of white Chocolates and the total number of Brown chocolates manufactured by all companies together respectively?

a) 4:7

b) 6:7

c) 5:4

d) 9:7

e) None of these

14) Find the central angle that corresponds to brown chocolates related to company C, if data of all companies related to brown chocolates arranged in a pie chart?

a) 137.85^0

b) 129.60^0

c) 129.75^0

d) 136.85^0

e) None of these

15) Find the number of brown chocolates manufactured by company A is approx. how much % more or less than the number of brown chocolates manufactured by company C?

a) 12.9%

b) 13.7%

c) 12.7%

d) 12.5%

e) 13.2%

Direction (16 – 21): Read the following information carefully and answer the questions based on it.

The line graph given below shows the % of managers in a company out of the total number of employees in that company and the table is given below shows the number of female managers in a company.

% of Managers out of total employees
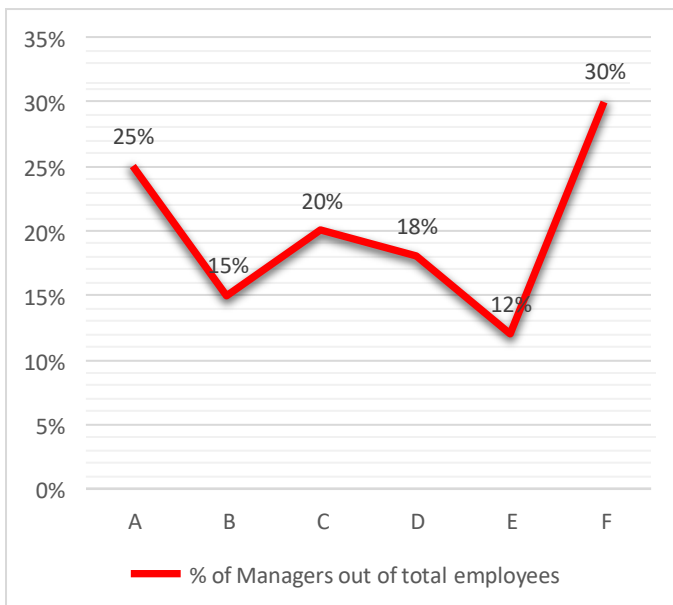
16) If the number of male managers in company C is 144 and the number of females in company C is 360, then find the number of male employees other than managers is how much % more than the number of male managers in that company?

a) 225%

b) 180%

c) 275%

d) 75%

e) None of these

17) In company A, if the difference between the number of managers and the number of non – managers is 196, then find the number of male managers in that company?

a) 36

b) 56

c) 46

d) 42

e) None of these

18) Ratio of male managers and female managers in company F is 5:3 respectively, then

Company	Female Managers
A	52
B	104
C	36
D	80
E	36
F	90

find the number of non – manager employees in company F?

a) 630

b) 560

c) 420

d) 660

e) None of these

19) If the number of employees other than managers in company D is 574, then find the number of male managers in company D?

a) 46

b) 44

c) 36

d) 56

e) None of these

20) Number of male managers in company E is 'K' more than the number of female managers in company E. Find the total employees in E, where K = 75% of the number of female managers in the company?

a) 875

b) 625

c) 725

d) 825

e) None of these

21) In company B, the number of females is 60% of total employees and the number of female employees other than the manager is 40% of the number of employees other than the manager. Find the number of employees in company B other than the manager?

a) 340

b) 320

c) 360

d) 400

e) None of these

22) A Number series is given to you as below:

701, 349, 173, 85, 41, 19, 8, 2.5

X is the nth term of the given series and Y is the $(n + 1)^{th}$ term of the same series.

Find which of the following statement is/are true in the context of the given number series.

I. $X = 2Y + 3$

II. Difference between the first term and second term is twice the difference between the second and third term and so on.

III. $Y = 3X + 2$

a) Only I

b) II and III only

c) I and III only

d) I and II only

e) I, II and III

23) A number series given below as I. A second number series as II having first term same as the wrong term of the series I. Find 3rd term of series II?

Series I. 3, 7, 22, 95, 479, 2879

a) 541

b) 571

c) 561

d) 551

e) None of these

Direction (24 – 25): In the following question two number series I and II are given to you. In each number series, there is a wrong term. You are expected to find the logic of the series and identify the wrong term then answer the question accordingly.

Series I. 18, 20, 25, 35, 52, 78, 114

Series II. 80, 320, 1120, 3360, 8400, 16400, 25200

24) In series II, if N is the wrong term, then find which of the following statement(s) is/are true?

I. (N/400) is a prime number

II. (N + 500) is a perfect square

III. When N is divided by 27, the remainder is a prime number

a) I only

b) I and II only

c) III only

d) I, II and III

e) None of these

25) If N is the wrong Number in series I, then find what minimum number must be added to N to make it perfect square?

a) 14

b) 8

c) 9

d) 11

e) None of these

26) There are some green balls, some blue balls and 7 red balls in the bag. The probability of picking one green ball is 1/7 more than that of picking one red ball. The probability of picking one blue ball is 9/35 more than that of the probability of picking one red ball. Find the total number of blue balls in the bag?

a) 16

b) 14

c) 12

d) 18

e) None of these

27) Samantha born 4 years after the marriage of their parents, Samantha's mother is 4 years younger than Samantha's father. At present Samantha is 20 years younger than his mother. After 4 years ratio of ages of her parents is in 7:8. How many years before his parents got married?

a) 12 years

b) 8 years

c) 16 years

d) 10 years

e) None of these

Direction (28 – 29): In each of the following questions three statements I, II and III are given to you. You have to decide which statement(s) is/are sufficient to answer the question.

28) Scheme 'A' offers an R% rate of interest on compound interest. Find the value of R?

Statement I: If the interest received on 2P/5 sum of money invested for 11 years at 0.25R% interest on SI is half of amount P invested in scheme A for 2 years.

Statement II: If X is invested in scheme A for 2 years and amounts to Rs. 3600. If Rs. 16X/25 is

invested at (R – 10) % on CI for 2 years, it amounts to Rs. 1936.

Statement III: Difference between interests on Rs. Q invested in Scheme A for two years and three years is Rs. 1152.

a) Only I

b) Only I or II

c) Only I or III

d) Any two statements are required

e) None of the statement is sufficient to answer

29) An article is marked up at a certain rate above the cost price. Find the marked price of the article (i.e) Rs. K.

Statement I. K is marked at 80% above cost price.

Statement II: The cost price of the article is Rs. P. If the shopkeeper gives a discount of 4%, then he makes a profit of 8%. If he sells the article at the marked price, then profit is Rs. 28

Statement III: The cost price of the Pen is Rs. Q. Shopkeeper makes a profit of Rs. 56, if he gives a discount of 22.22%

a) II or (I + III)

b) Only II

c) Combination of any two statements

d) Only III

e) Any of the statements alone is not sufficient to answer the question.

Direction (30 – 31): There are 6 quantities given to you, three in each box, Box 1 and Box 2. Find the perfect match between the quantities of boxes according to the situation given to you.

Box 1:

I. The volume of the toy is 1232 cm³, cone consists of cone X, surmounted by a hemisphere.

II. Volume of cylinder Y is 1848 cm³

III. A circle is inscribed in a square S.

Box 2:

IV. Radius = 14 cm

V. Radius = 7 cm

VI. Circumference of circle = 44 cm

30) If the difference between the height of Y and the side of S is greater than 20 cm, find which of the following given match(s) is/are true.

Match P: II-VI

Match Q: II – V

Match R: II-IV

a) Match P and R only

b) Match P only

c) Match R only

c) Match Q only

e) Match Q and R only

31) If the height of X is greater than Radius of Y, then find which of the following match is true?

a) I – V only, II-IV, III-IV only

b) I – V or I – VI, II – IV or II – V, III – IV or III – V or III - VI

c) I – V or I – VI, II – IV, III – IV or III – V or III - VI

d) I – VI, II – IV or II – V, III – IV or III – V or III - VI

e) None of these

Direction (32 – 34): A person is going market from his home with a speed of P km/h and in Q hours. After reaching the market, he purchases a cylindrical jar of a certain height having a capacity equal to 83259 cubic cm. There is a conical vessel whose capacity is $1/27^{th}$ of the cylindrical jar and the height of the cone is 14 cm. The height of the conical vessel is 300% more than the cylinder.

32) Find the ratio of the radius of the cylindrical jar to the radius of the conical vessel.

a) 6:1

b) 3:2

c) 4:3

d) 5:2

e) None of these

33) If the distance between home and market is numerically equal to seven more than $1/3^{rd}$ of the square root of $1/11^{th}$ of the capacity of cylindrical jar and speed of person is 300% more than the time taken by a person to reach the market, then find the value of P.

a) 40 km/h

b) 18 km/h

c) 36 km/h

d) 12 km/h

e) None of these

34) If the distance between home and market is numerically equal to the seven more than $1/3^{rd}$ of the square root of $1/11^{th}$ of the capacity of cylindrical jar and speed of person is 300% more than the time taken by a person to reach the market, then find the value of Q.

a) 6 hours

b) 3 hours

c) 9 hours

d) 12 hours

e) None of these

35) The product of two positive integers is 616. If the ratio of difference of their cubes to the cube of their difference is 157:3, then find 50% of the sum of two numbers.

a) 50

b) 75

c) 12.5

d) 25

e) None of these

<div align="center">Answer with Detail Explanation</div>

Directions (1 – 3):

Average Speed of train on day 1 = 150 km/h

Average Speed of train on day 2 = 187.5 km/h

Let the time taken by train to go from S1 to S3 on day 1 = a hours

So, time taken by train to go from S1 to S3 on day 2 = (a + 3) hours

Let the time taken by train to go from S3 to S4 on day 1 = day 2 = b hours

Let the time taken by train to go from S4 to S2 on day 1 = c hours

So, time taken by train from S4 to S2 on day 2 = (c − 9) hours

Distance between S4 and S2 is 66.66% more than distance between S1 and S3. Distance between S3 and S4 is 10% less than distance between S4 and S2

So ratio of distance from (S1 to S3), (S3 to S4) and (S4 to S2) = 6:9:10

We know, average speed = total distance/total time

Distance travelled in both the days is same, so

150 x (a + b + c) = 187.5 x (a + 3 + b + c − 9)

4 x (a + b + c) = 5 x (a + b + c − 6)

4 x (a + b + c) = 5 x (a + b + c) − 30

So, (a + b + c) = 30

So time is taken by train to travel the distance from S1 to S2 on day 1 = 30 hours

1) Answer: C

According to the question,

Time taken by train to go from S1 to S2 on day 2

= (a + 3 + b + c − 9)

= (a + b + c) − 6

= 30 − 6 = 24 hours

Hence answer is option C

2) Answer: A

We already know,

The ratio of the distance from (S1 to S3), (S3 to S4) and (S4 to S2) = 6:9:10

Time is taken by train to travel the distance from S1 to S2 on day 1 = 30 hours

Average speed on day 1 = 150 km/h

So, total distance = 150 x 30 = 4500 km

Distance between S1 and S3 = [6/ (6 + 9 + 10)] x 4500 = 1080

Distance between S4 and S2 = [10/ (6 + 9 + 10)] x 4500 = 1800

Required difference = 1800 − 1080 = 720 km

Hence answer is option A

3) Answer: B

According to the question,

The speed of the train between stations S4 and S2 and between stations S3 and S4 is in the ratio of 2:3.

The ratio of the distance from (S1 to S3), (S3 to S4) and (S4 to S2) = 6:9:10

So the ratio of time taken from (S4 to S2) and (S3 to S4) = 10/2: 9/3 = 5:3

Difference of time = 6 hours

So time is taken by train to go from S4 to S2 = 15 hours

Total distance travelled by train = 150 x 30 = 4500 km

Distance between S4 and S2 = 10/25 x 4500 = 1800 km

Required speed = 1800/15 = 120 km/h

Hence answer is option B

4) Answer: D

For Mumbai,

Let the total number of students studying in IIM A from Mumbai = 100a

Number of engineers = 88% of 100a = 88a

Number of non-engineers = 100a − 88a = 12a

Number of male engineers = 75% of 88a = 3/4 x 88a = 66a

Number of female engineers = 88a – 66a = 22a

Number of male non engineers = 41.667% of 12a = 5/12 x 12a = 5a

Number of female non engineers = 12a – 5a = 7a

Total number of male students = (66a + 5a) = 71a

Total number of female students = (22a + 7a) = 29a

Required % of change = (71a – 29a)/29a x 100 = 144.82%

Hence answer is option D

5) Answer: C

According to the question,

Let the total Population = 100a

Number of engineers = 78% of 100a = 78a

Number of non-engineers = 100a – 78a = 22a

Number of male engineers = 1896

Number of female engineers = 78a – 1896

Number of male non engineers = 40% of 22a = 8.8a

Number of female non engineers = 22a – 8.8a = 13.2a

Total number of female = 2208

So, 78a – 1896 + 13.2a = 2208

91.2a = 2208 + 1896

So, a = 4104/91.2 = 45

So total number of students belongs to Calcutta = 100a = 4500

Hence answer is option C

6) Answer: E

For Delhi,

Let total population of Delhi = 100a

Number of engineers = 68% of 100a = 68a

Number of non-engineers = 100a – 68a = 32a

Number of male engineers = 2448

Number of female engineers = 68a – 2448

Number of non – engineers male = 25% of 32a = 8a

Number of non-engineers female = 32a – 8a = 24a

Total number of females = 1968

So, 68a – 2448 + 24a = 1968

92a = 4416

So, a = 48

So, total number of male students = 2448 + 8a = 2832

Number of male engineers belongs to Bangalore = 3588

Required difference = 3588 – 2832 = 756

Hence answer is option E

7) Answer: B

For Bangalore,

Let total population = 100a

Number of engineers = 92a

Number of non-engineers = 100a – 92a = 8a

Number of male engineers = 3558

Number of female engineers = 92a – 3588

Number of male non - engineers = 62.5% of 8a = 5a

Number of female non engineers = 8a – 5a = 3a

Number of females pursuing masters in Finance = 300% of 5a = 15a

Number of females pursuing masters in Marketing = (92a – 3588) – 15a = 77a – 3588

Now,

(77a – 3588) – 15a = 132

62a = 3588 + 132 = 3720

So, a = 3720/62 = 60

So, total students belongs to Bangalore = 100a = 100 x 60 = 6000

Hence answer is option B

8) Answer: B

For Assam,

Let the total population = 320a

Number of engineers = 80% of 320 = 256a

Number of non – engineers = 320a – 256a = 64a

Number of male engineers = 68.75% of 256a = 176a

Number of female engineers = 256a – 176a = 80a

Number of male non engineers = 37.5% of 64a = 24a

Number of female non engineers = 64a – 24a = 40a

Now,

(176a + 24a) – (80a + 40a) = 3300

80a = 3300

So, a = 3300/80 = 330/8

So number of female non-engineers = 40a = 40 x 330/8 = 1650

Hence answer is option B

9) Answer: C

For Delhi,

Let total population of Delhi = 100a

Number of engineers = 68% of 100a = 68a

Number of non-engineers = 100a – 68a = 32a

Number of male engineers = 2448

Number of female engineers = 68a – 2448

Number of non – engineers male = 25% of 32a = 8a

Number of non-engineers female = 32a – 8a = 24a

Total number of females = 1968

So, 68a – 2448 + 24a = 1968

92a = 4416

So, a = 48

So, number of female engineers = 68a – 2448 = 816

Required difference = 2448 – 816 = 1632

Hence answer is option C

10) Answer: A

According to the question,

Number of girls in stream B = 360

The number of girls in stream B is 90 more than thrice the number of girls in stream A

So, 3 x number of girls in stream A + 90 = 360

So, number of girls in stream A = 270/3 = 90

Total number of students in stream B is 90 less than twice the number of students in stream A.

2 x (boys in A + Girls in A) – 90 = (boys in B + girls in B)

2 x (boys in A + 90) – 90 = (boys in B + 360)

2 x boys in A – boys in B = 270… ….. (1)

Number of boys in stream B is 50% of the sum of the total number of students in stream A.

So, boys in B = 1/2 x (boys in A + 90)

Boys in A – 2 x boys in B = - 90 .... (2)

On solving both equations,

3 x boys in B = 270 + 180

Boys in B = 450/3 = 150

Hence answer is option A

11) Answer: D

Let the number of boys and girls in stream A is 'a' and 'b' respectively.

So number of boys in stream B = (a + b)/2

Number of girls in stream B = (3b + 90)

Total number of students in stream B is 90 less than twice the number of students in stream A.

2 x (a + b) – 90 = (3b + 90) + (a + b)/2

4a + 4b – 180 = 6b + 180 + a + b

3a – 3b = 360

(a – b) = 120

We need to calculate = 2 x a + b – (3b + 90) = 2(a – b) – 90

So required value = 2 x 120 – 90 = 150

Hence answer is option D

12) Answer: A

Let the number of boys and girls in stream A is 'a' and 'b' respectively.

So number of boys in stream B = (a + b)/2

Number of girls in stream B = (3b + 90)

Total number of students in stream B is 90 less than twice the number of students in stream A.

2 x (a + b) – 90 = (3b + 90) + (a + b)/2

4a + 4b – 180 = 6b + 180 + a + b

3a – 3b = 360

(a – b) = 120

We need to calculate = [3a + (a + b)/2] –[b + 3b + 90]

= (7a – 7b – 180)/2

=7/2 x (a – b) – 90

= 7/2 x 120 – 90

= 330

Hence answer is option A

Directions (13 – 15):

According to the given information,

(P + 12 + P/2 + 8 + 2P – 14 + 1.2P)% = 100%

4.7P = 94

P = 20

Similarly, (5Q/3 + 2Q + 4 + Q + 10Q/3) % = 100%

8Q = 96

Q = 12

Let total number of Chocolates and total number of white chocolates manufactured by all companies together is 100a and 100b respectively

Total number of brown chocolates in company B = 3040

(P/2 + 8)% of 100a - (2Q + 4) % of 100b= 3040

18a – 28b = 3040....... (1)

Total number of brown chocolates in company D = 3520

(1.2P)% - (10Q/3) % = 3520

24a – 40b = 3520....... (2)

On solving both equations we get

Value of a = 480 and b = 200

Total number of chocolates manufactured = 100a = 48000

Total number of white chocolates manufactured 100b = 20000

Now we can find the data for all companies, calculated in the table below:

Company	Total Chocolates	White Chocolates	Brown Chocolates
A	15360	4000	11360
B	8640	5600	3040
C	12480	2400	10080
D	11520	8000	3520
Total	48000	20000	28000

13) Answer: E

According to the question,

Total number of white chocolates = 20000

Total number of brown chocolates = 28000

Required ratio = 20000: 28000 = 5:7

Hence answer is option E

14) Answer: B

Total number of brown chocolates = 28000

Brown chocolates manufactured by company C = (10080/28000) x 360^0 = 129.60^0

Hence answer is option B

15) Answer: C

Number of brown chocolates manufactured by company A = 11360

Number of brown chocolates manufactured by company C = 10080

Required % change = [(11360 − 10080)/10080] x 100 = 12.7%

Hence answer is option C

16) Answer: E

For company C,

Number of male managers = 144

Number of female managers = 36

Total managers in company = 20% of total employees in a company

So, total employees in the company = (144 + 36)/20 x 100 = 900

Number of female employees = 360

Number of male employees = 900 − 360 = 540

Number of male employees other than manager = 540 − 144 = 396

Required % change = (396 − 144)/144 x 100 = 175%

Hence answer is option E

17) Answer: C

For company A,

Number of managers in company = 25% of total employees in a company

Number of non-managers in company = 75% of total employees in a company

Now,

(75% - 25%) of total employees in company = 196

So, total employees in the company = 196/50 x 100 = 392

Number of managers in company = 25% of 392 = 98

So, number of male managers in company = 98 − 52 = 46

Hence answer is option C

18) Answer: B

Number of female managers in the company = 90

So, number of male managers in company = 5/3 x 90 = 150

Total managers in company = (90 + 150) = 240

Number of managers in company = 30% of total employees

Number of non – managers = 70% of total employees

So, number of non – managers in company = 240/30 x 70 = 560

Hence answer is option B

19) Answer: A

Number of managers in company D = 18% of total employees

Number of non – managers = 82% of total employees

So, total employees in the company = 574/82 x 100 = 700

Number of managers = 18% of 700 = 126

Number of male managers = 126 – 80 = 46

Hence answer is option A

20) Answer: D

Number of female managers in company E = 36

So, number of male managers in company E = 36 + 75% of 36 = 63

Total managers in company = 63 + 36 = 99

So, total employees in company E = 99/12 x 100 = 825

Hence answer is option D

21) Answer: A

Let the total number of employees in the company B= 100a

Number of female = 60% of 100a = 60a

Number of male = 40a

Number of managers = 15% of 100a = 15a

Number of non – managers = 100a – 15a = 85a

Number of female other than manager = 40% of 85a = 34a

So number of female managers = 60a – 34a = 26a

So, 26a = 104

So value of a = 104/26 = 4

So number of employees in company = 100a = 400

Number of employees other than manager = 85% of 400 = 340

Hence answer is option A

22) Answer: D

Statement I:

The given series is

701, 349, 173, 85, 41, 19, 8, 2.5

If X = 701 and Y = 349

Then 701 = 2 x 349 + 3 (follow)

If X = 349 and Y = 173

Then, 349 = 2 x 173 + 3 = 349

Check for other terms also, it will follow the same pattern.

This statement is true

Statement II:

Difference between the first term and second term is twice the difference between the second and third term and so on.

So, the difference between the first term and the second term = 352

Difference between second term and third term = 349 − 173 = 176

So, 2 x 176 = 352 (follow)

If the first term is 349,

Difference between first term and second term = 349 − 173 = 176

Difference between second term and third term = 173 − 85 = 88

2 x 88 = 176 (follow)

If first term is 173

Difference between first term and second term = 173 − 85 = 88

Difference between second term and third term = 85 − 41 = 44

2 x 44 = 88 (follow)

If first term is 85,

Difference between first term and second term = 85 − 41 = 44

Difference between second term and third term = 41 − 19 = 22

2 x 22 = 44 (follow)

If first term is 41

Difference between first term and second term = 41 − 19 = 22

Difference between second term and third term = 19 − 8 = 11

2 x 11 = 22 (follow)

If first term is 19,

Difference between first term and second term = 19 − 8 = 11

Difference between second term and third term = 8 − 2.5 = 5.5

2 x 5.5 = 11 (follow)

This statement is true.

Statement III:

X = 701, Y = 349

Y = 3X + 2, will not follow, because Y is always less than X.

This statement is not true

Only I and II are true.

Hence answer is option D

23) Answer: D

Series I:

3 x 2 + 1 = 7

7 x 3 + 2 = 23

23 x 4 + 3 = 95

95 x 5 + 4 = 479

479 x 6 + 5 = 2879

Wrong term is 22

Series II:

22 x 2 + 1 = 45

45 x 3 + 2 = 137

137 x 4 + 3 = 551

Hence answer is option D

24) Answer: D

Series II:

80 x 4 = 320

320 x 3.5 = 1120

1120 x 3 = 3360

3360 x 2.5 = 8400

8400 x 2 = 16800

16800 x 1.5 = 25200

So the value of N = 16400

Statement I. value of (N/400) = 16400/400 = 41 (Prime number)

This statement is true

Statement II: (N + 500) = (16400 + 500) = 16900 = $(130)^2$

This statement is true

Statement III: (N/27) = 16400/27 = 27 x 607 + 11

Remainder is 11, so this statement is true.

All statements are true.

Hence answer is option D

25) Answer: E

Series I:

18	20	25	35	52	78	115
	2	5	10	17	26	37
		3	5	7	9	11

Value of N = 114

114 + 7 = 121

Hence answer is option E

26) Answer: A

Let the number of green balls and blue balls in the bag is 'a' and 'b' respectively.

According to the question,

a/total balls – 7/total balls = 1/7

7a – 49 = total balls ....(1)

Also,

b/total balls – 7/total balls = 9/35

35b – 245 = 9 x total balls ....(2)

On comparing both equations

63a – 441 = 35b – 245

63a – 35b = 196

9a – 5b = 28 .... (3)

Also, total balls = (a + b + 7)

So, 7a – 49 = a + b + 7

6a – b = 56................ (4)

On solving 3 and 4, we get

7b = 112

So, b = 16

Number of blue balls in the bag = 16

Hence answer is option A

27) Answer: B

According to the question,

At present Samantha is 20 years younger than his mother. That means when Samantha was just born, the age of her mother was 20 years and her father was 24 years.

The age of parents at the time of marriage was 20 years and 16 years respectively.

The ratio of ages of parents after 4 years is in the ratio of 7:8. That means the ages of their parents after 4 years will be 28 years and 32 years.

So the present age of her parents is 24 years and 28 years respectively.

Present age of Samantha = 24 – 20= 4 years

So her parents married before 8 years

Hence answer is option B

28) Answer: B
Statement I:
According to the given statement,
Simple interest earned = 2P/5 x R/400 x 11 = 0.011PR
Compound interest earned on P = P x [(1 + R/100)² - 1]
Now,
P x [(1 + R/100)² - 1] = 0.011PR x 2
2R + R²/100= 2.2 R
R²/100 = 0.2R
So R = 20%
This statement is sufficient to answer the question.
Statement II:
X is invested in scheme A for 2 years and amounts to Rs. 3600.
Rs. 16X/25 is invested at (R – 10) % on CI for 2 years, it amounts to Rs. 1936
So, 3600 = X [(100 + R)/100]² ....(1)
Also, 1936 = 16X/25 [(100 + R – 10)/100]²...............(2)
On diving both equations
3600/1936 = 25/16 x (100 + R) ² / (90 + R) ²
60/44 = 5/4 x (100 + R)/ (90 + R)
1100 + 11R = 1080 + 12R
R = 20%
This statement is alone sufficient to answer the question.
Statement III:
We don't know about the value of Q. So we can't calculate R.

This statement is not sufficient to answer the question
Hence answer is option B

29) Answer: A
Statement I alone is not sufficient to answer the question.
Statement II:
108% of P = 96% of K
P/K = 8/9
If he sells the article at the marked price then profit is Rs. 28
Then, (9 – 8) units = 28
Then value of K = 28 x 9 = Rs. 252
This statement is sufficient to answer the question.
On combining (I + III),
Mark up % is 80%
So Q/K = 5/9
Discount is 22.222%
So ratio of SP/K = 7/9
So, CP: SP: MRP = 5:7:9
Profit is Rs. 70
So 2 units = Rs. 56
1 unit = 28
So required value of K = 28 x 9 = Rs. 252
This combination of the statement is sufficient to answer the questions.
Statement II alone or statement (I + III) is sufficient to answer the question.
Hence answer is option A

30) Answer: C
Volume of cylinder = 1848 cm³

22/7 x r² x height = 1848

In quantity VI, circumference = 44 cm

So radius = 7 cm

If radius = 14 cm

Then side of square = 2 x 14 = 28 cm

Then height of cylinder = (7/22 x 1848)/ (14 x 14) = 3 cm

So the difference between the height and side of the square is more than 20. This will satisfy the condition

If radius = 7 cm

Side of square = 14 cm

Then height of cylinder = (7/22 x 1848)/ (7 x 7) = 12 cm

So the difference between the height and side of the square is less than 20. This will not satisfy the condition.

So the correct match is II-IV.

Hence answer is option C

31) Answer: C

The volume of toy = 1232 cm³

If radius = 7 cm

1/3 x 22/7 x 7 x 7 x height of cone + 2/3 x 22/7 x 7³ = 1232

22/7 x 7² x (1/3) x (height of cone + 14) = 1232

Height of cone = 10 cm

If radius = 14 cm, then the height of the cone becomes negative

Hence answer is option C

32) Answer: A

According to the question,

Volume of cylinder = 22/7 x (radius of cylinder) ² x height of cylinder

Volume of cone = 1/3 x 22/7 x (radius of cone) ² x height of cone

Now,

27 x 1/3 x 22/7 x (radius of cone) ² x 4 x height of cylinder = 22/7 x (radius of cylinder) ² x height of cylinder

Radius of cone/radius of cylinder = 1/6

Required ratio = 6:1

Hence answer is option A

33) Answer: D

Distance between home and market = 7 + 1/3 x (1/11 x 83259)^{1/2} = 36

Speed of person = 4 x time taken

So 36 = time x 4 x time taken

Time = 3 hours = Q

Numerical value of P = 4 x 3 = 12 km/h

Hence answer is option D

34) Answer: B

The required value of Q = 3 hours

Hence answer is option B

35) Answer: D

Let the two numbers be 'a' and 'b'

So, a x b = 616

Also, (a³ - b³) / (a – b) ³ = 157/3

= (a² + a x b + b²) / (a² + b² - 2ab)

Put a² + b² = K

So, (K + 616)/ (K – 2 x 616) = 157/3

So, value of K = 1268

Value of a² + b² = 1268

Or a² + b² + 2ab = 1268 + 2ab

(a + b) ² = 1268 + 2 x 616 = 2500

So, value of (a + b) = 50

Required value = 50% of 50 = 25

Hence answer is option D