Test 3/25-Answer &key -1/12/2018

1) D:

Let the normal speed of Mayank be x km/h.
Then, the increased speed of Mayank = (x + 4) km/h
Total distance = 80 km.
Now, Time = (Distance/speed)
Hence, according to the question, we get:
(80/x)- [80/(x+4)]= 1
+ 4x – 320 = 0
x(x + 20) – 16(x + 20) = 0
(x + 20) (x – 16) = 0
Hence, x = 16 km/h
Thus, the increased speed of Mayank = (x + 4) km/h = 16 + 4 = 20 km/h.
Hence, option (d) is correct.

2) D:

Number of plants in each row = HCF of 15, 20 and 25 = HCF of 3×5, 4×5 and 5×5 = 5
Total number of plants = 15 + 20 + 25 = 60
So, Minimum number of rows = 60/5 = 12

3) A:

Here we need to trace his total savings starting from the share given to his daughter.
He has given Rs. 9,100 to his daughter and has kept an equal amount for himself.
Thus before giving money to his daughter the amount with him = 9100 X 2= Rs.18,200
Now, this is the amount left with him after giving 35% to his second son, i.e. Rs.18,200 is 65% of the amount of money Aamir had before giving second son his share or after giving the first son his share.
Thus, amount of money left after giving first son his share = (100/65) X 18200 = Rs.28,000 This is the amount left after giving 30% of the total savings to the first son. Thus, it is 70% of his total savings.
So, total savings = (100/70) X 28000 = Rs. 40,000.
Note: Though here in this method we have calculated the total savings by tracing the original amount backwards, we may also assume the total savings as Rs. x and then solve.

4) A:

The passage explains that by forgiving ourselves we can free ourselves from the prison of guilt.
Therefore, it can be safely assumed that we can forgive ourselves. Thus, Option (a) is the correct answer. Option (b) says the just opposite and thus is incorrect. Option (c) is incorrect. It can't be told about every human being. Every human being is not trapped in the prison of guilt. Further, the passage advises us to love ourselves and thus Option (d) is also incorrect which says just the opposite.

5) B:

The passage explains that once we open the door of our heart to ourselves and reach inside, we are perfect. Opening the door of our heart to ourselves here implies loving and forgiving ourselves. Thus, Option (b) is the correct answer.
Option (a) is incorrect. The passage mentions about loving others the way we love ourselves. However, in the passage this is not described as the way it of achieving perfection. Option (c) is also incorrect. The passage does not mention that being at peace with ourselves will lead to perfection. Option (d) is wrong because the passage clearly says that "If you wait for perfection, it never arrives."

6) C:

In the story the man betted that horse number five will win the race. But he came fifth instead. Thus, the passage discusses how predicting future based on dreams and signs can lead to unfavourable results. Thus, Option (c) is the correct answer.
Option (b) is incorrect because it is discussing just the opposite. Option (a) is also incorrect. It can't be inferred from the passage if the man was inexperienced in horse betting or not. Option (d) is incorrect because nothing is discussed about lucky number.

7) A:

Option (a) is correct. The passage argues that pending cases can't be reason for denying access to justice to the poor and weaker sections of the community. So, equality of opportunity must be provided to both rich and poor.

Option (b) is incorrect. The passage is not about the role played by PILs. The passage is about whether to allow PIL or not. So it can't be the central theme. Option (c) is incorrect. Justice Bhagwati was in favour of allowing PIL to be heard side by side other cases. The passage doesn't mention that PILs should be expedited. And, certainly Justice Bhagwati's views is not the central theme of the passage.

Option (d) is also incorrect. The passage presents an argument that state can't make poor and marginalised peole wait till cases of people who can afford is disposed off. So, the central theme is argument that poor should treated equally. The fact related to more number of cases pertaining to well off people is difficult to derive either and it is also not the central theme.

8) B

Option (a) is incorrect. The Author has said that protecting reputation at the cost of freedom of speech and expression can derail democracy. So it is very unlikely that author would agree to defamation remaining a criminal offence.

Option (b) is correct. The Author argues that in defamation cases even telling truth is not enough. Thus, it seems that s/he wants truth to be a valid defence.

Option (c) is incorrect. The Author doesn't say that there should be no right to reputation. S/he just says that it should not be given priority over the fundamental right to freedom of speech and expression. Option (d) is also incorrect. The given statement has been said as an analogy in a particular context. It won't be logical to universalize it out of context.

9) B:

In the passage the author is believes that despite the negotiations to freeze oil production, oil price will continue to decrease unless there is no concrete action. And, concrete action is possible only when Iran participates. Thus Option (b) is the correct answer.

Option (a) is incorrect author does not show the concern about possible oil price rise. Option (c) is incorrect because there is no mention of any war in the passage. Option (d) is also incorrect. He is not content with the promises of oil producing nations especially Iran.

10) C

The production freeze is likely to be a non-starter because according to the passage, after years of sanctions, Iran will increase its oil production to capture the market share. Option (c) is therefore the correct answer.

Option (a) is incorrect because shale gas technology is not mentioned in the passage. Similarly, the conflicting political interest of Russia and Saudi Arabia is not discussed in the passage and hence, Option (b) is also incorrect. Option (d) is wrong because in the passage nowhere it is discussed that Iraq, Qatar and Venezuela are not supporting the freeze.

Explanation for Q 11 and 12:

According to statement 2, Rohit answered Q1 incorrectly. As both Divya and Rohit marked the same answer, hence Divya has also answered Q1 incorrectly.

According to statement 3, Priya answered Q4 incorrectly. As both Divya and Priya marked the same answer, hence Divya has also answered Q4 incorrectly.

Now, as per statement 1, Divya answered only two questions correctly. As we already know that Divya answered Q1 and Q4 incorrectly, she must have answered Q2 and Q3 correctly.

Hence, the correct answers of Q2 and Q3 are 2 and 3 respectively.

According to the statement 4, Amit answered only two question correctly. His answers to Q2 and Q3 are incorrect, so his answers to Q1 and Q4 must be correct.

Hence, the answer of Q1 and Q4 is 3 and 1 respectively.

According to the statement 3, Priya answered only one question correctly. It must be Q2.

11) C : Clearly, Amit gave the right answer for Q1.

12) C: Clearly, 3 is the right answer of Q3.

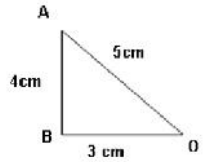
13) A:

It's evident that the map has been rotated clockwise by 90°.

We know that the sun sets in the west, i.e. left part of the page as seen from the center of a normally printed map. After rotating the map clockwise by 90°, west will be found towards the top of the page.

Hence, option (a) is the correct answer.

14) B: The three points will form a right angled triangle as shown below:



The shortest distance between points O and B can be calculated by using Pythagoras theorem. Using Pythagoras theorem, we get:

$OB = (5^2 - 4^2)^{1/2} = (25 - 16)^{1/2} = (9)^{1/2} = 3$ cm

Hence, the correct answer is option (b).

15) D: Abhay is taller than Bijay but shorter than ChandanChandan>Abhay>Bijay

Now Chandan is shorter than Deepak Deepak>Chandan>Abhay>Bijay

Clearly, Deepak is tallest among all.

Hence, option (d) is the correct answer

16) B:

3 ladies out of 8 can be selected in 8C3 ways and 4 gentlemen out of 7 in 7C4 ways.

Now, each way of selecting 3 ladies is associated with each way of selecting 4 gentlemen.

Hence, the number of ways in which a committee of 3 ladies and 4 gentlemen can be appointed from a pool of 8 ladies and 7 gentlemen = 8C3 ×7C4 = 56 × 35 = 1,960.

Let us now find the number of committees of 3 ladies and 4 gentlemen in which both Mrs X and Mr Y are already members.

In this case, we can select 2 other ladies from the remaining 7 in 7C2 ways and 3 other gentlemen from the remaining 6 in 6C3 ways.

Therefore, the number of ways in which a committee may be constituted such that both Mrs X and Mr Y are always included = 7C2 × 6C3 = 21 × 20 = 420

Hence, the required number of committees in which Mrs X and Mr Y do not serve together = 1960 – 420 = 1,540

Hence, option (b) is the correct answer.

17) C:

The advocate is to the right of the student, who is standing between poet and the advocate. So, we have:

Poet, Student, Advocate

The dancer is to the left of the businessman. So, we have:

Dancer, Businessman

Since the poet and the businessman are at the extreme ends, the arrangement from left to the right becomes:

Poet, Student, Advocate, Dancer, Businessman

Clearly, the advocate is third from left.

Hence, (c) is the required answer.

Explanation for Questions 18 to 19:

Total number of students = 1800

It is given that one third of students are females. Thus, the number of females = (1/3)x 1800 = 600

Number of males =1800 – 600 = 1200

It is known that 65 percent of the male students are pursuing undergraduate course.

Thus, number of male students pursuing undergraduate course = (65/100) x 1200 = 780

Number of male students pursuing postgraduate course = 1200 – 780 = 420.

Also, it is known that 63 percent of the total number of students are pursuing undergraduate courses.

Total number of students pursuing undergraduate course = 63(1/3) x (1/100) x 1800= 1140

Total number of students pursuing postgraduate course = 1800 – 1140 = 660

Number of female students pursuing undergraduate course = Total number of students pursuing undergraduate course – Number of male students pursuing undergraduate course = 1140 – 780 = 360

Number of female students pursuing postgraduate course = Total number of female students – Number of female students pursuing undergraduate course

= 600 – 360 = 240

This information can be tabulated as follows:

Courses	Male	Female
Undergraduate	780	360
Postgraduate	420	240
Total	1200	600

18) B

Required difference = 420 – 360 = 60
Hence, option (b) is correct

19) A

Required ratio = 420: 240 = 7 : 4
Hence, option (a) is correct.

20) A

The author has linked "first rate of intelligence" and "very bright" as both pertains to opposing ideas. It is made more clear by "yet they simultaneously..". Hence Option (A) is correct.
Option (b) cannot be inferred from the passage and hence incorrect. Similarly option (d) and option(c) are also incorrect as no such information is given in the passage.

21) D:

The statement highlights the possibility that a single solution (public administration design) might not solve all the problems. Hence option (d) is correct.
Option (a) and (b) are exaggerated conclusions and hence incorrect. Option (c) cannot be inferred as the statement is about design of public administration and not the abilities of countries.

22) B

The passage explains that if you cannot win an argument by proving the person a non-compos mentis. Thus, Option (b) is the best justification of this.
Option (a) is incorrect because synthesis of two conflicting ideas often produces good results. Here the emphasis is on avoiding wrong method of arguing. Option (c) is incorrect. Human beings don't lack the ability to figure out their own faults. But when their ego is hurt they resist that. Option (d) is also incorrect because one can be 100% wrong sometimes.

23) C:

The passage discusses the role of religion and tradition in denying equal rights to women. Thus Option (c) is the correct answer.
Option (a) is incorrect because compasrison between Islamic states and other states is not done in the passage. Option (b) is incorrect because it is not clear if religions are the biggest hindrance. Religions may be one of the hindrance. Option (d) is also incorrect because gender equality and religions may exist together. The need is to get rid of wrong and unjust traditions.

24) B:

The passage discusses how melting of Artic ice will bring water to surface which absorbs more sunlight and thus causes more warming. Thus, Option (b) is the correct answer. Option (a) is incorrect because it is not discussed in the passage whether Artic melt will eventually lead to collapse of global biodiversity systems or not. Option (c) is incorrect because the passage does not convey that most important threats to mankind will begin as as the Arctic ice melts. Option (d) is incorrect because the repercussions of Artic melt will not remain confined to the Northern hemisphere of Earth. The passage clearly mentions that the large-scale changes in ocean circulation will affect biodiversity well beyond the Arctic.

25) A:

Statement 1 is correct because the passage clearly mentions the negative consequences of Arctic melt.
Statement 2 is incorrect because the author believes that replacement of ice by water in Arctic may accelerate global warming and not decelerate it. Similarly, statement 3 is also incorrect because criticism of developed nations is not the issue of the passage. Thus, Option (a) is the correct answer.

26) A:

The passage discusses how on one hand nuclear nations are often critical of other countries doing nuclear tests and on the other hand they do not criticize themselves for nuclear disasters. Thus, Hypocrisy of developed world is essentially discussed in the passage.Hence, Option (a) is the correct answer.
Option (b) is incorrect because nuclear proliferation is not discussed in the passage. Option (c) is incorrect because even though the damage to coral reef is mentioned here, it is not the main theme of the passage. Option (d) is also incorrect because silence of Britain does not indicate the possibility of a nuclear alliance between Britain and France!

27) A

28) B

Let the number of boys = x
Then, the number of girls (20% more than that of boys) =x+(20/100)x =(120/100)x =(6/5)x
Total number of boys and girls in class is 66.
Thus, x + (6/5) = 66
On solving we get x= 30
Therefore, the number of girls = 66 – 30 = 36
Now, the number of total girls after 4 new girls are admitted to the class = 36 + 4 = 40
New ratio of the number of boys to that of the girls = 30 : 40 = 3 : 4
Hence, option (b) is the correct answer.

29) C:

Let the total quantity of ore be 'x' kg.
Ore wasted = 30% of x =(30x/100)
Remaining ore used = 70% of x =(70x/100)
Out of the remaining ore used, only 40% is pure iron,
i.e. (40/100) × (70x/100) = 56000 kg
or x = 2,00,000 kg

30) C:

Statement 1, 2 and 3 are correct as they are directly mentioned in passage in line 1, line 2 and line 3 respectively.
Statement 4 is incorrect. It is out of scopeof the given passage. We still do not know if these clearings will reduce our dependence on foreign military supply.

31) C:

Option (A) and (b) are directly mentioned in the passage in the penultimate line and in the third line respectively.
Option (c) is also mentioned, but not as a part of Project 75I. Hence, it is incorrect.
Option (D)is also directly mentioned in passage in the penultimate line

32) C

Statement 1 is clearly given in line 1, paragraph 2. (ineluctable = inescapable). Statement 2 is also correct. Line 1, paragraph 2 says, 'despite the undeniable demographic…' shows that these changes have taken place, and even then caste remains significant. Statement 3 can also be directly inferred from paragraph 2, 3rd line.
Statement 4 is out of scope of the passage. These divisions are certainly less important than the caste division, but to conclude as 'not' important would be erroneous.

33) C

Option (A) is incorrect. The national movement leaders were not wrong. They were 'bullish' about it and not out rightly false. Option (B) and (c)are out of context of the passage.
Option C is correct. It is clear from the statement – 'The leaders of the nationalist movement…..' This line shows that leaders of national movement were overambitious that caste will vanish away.

34) B: Option (a)is incorrect. It is caste based hierarchy that dominates the hearts of Indians and not income or occupation based hierarchy.
Option (b) is correct. The author says that constitution has not eliminated caste from hearts of Indians. And thus still Indians continue to believe in caste and thus caste is reflected in their behaviour as well.
Option (c)is incorrect. The statement made by the author is inclusive of politicians but not limited to them.
Option (d) is futuristic in nature and cannot be conclusively implied.

35) A: Expenditures on Operations in different years is given below:

2000 2.5
2004 2
2008 2
2012 1.5

Thus, in year 2000 expenditure on operations is the highest.

36) A

Year	Material Procurement	Operations	Human resource	Total Expenditure	Percentage of Expenditure on Human Resource
2000	4	2.5	2	8.5	23.5%
2004	3.5	2	2.5	8	31.3%
2008	3.5	2	3	8.5	35.3%
2012	3	1.5	3	7.5	40.0%

Thus, the percentage of expenditure on Human Resource is continuously increasing

37) C Cost of operations has reduced over the years, from 2.5 crores in 2000 to 1.5 crores in 2012. Thus, statement 1 may be correct.

Year	Expenditure in Material Procurement (in crores)	Sales (in crores)	Sales / Cost of Material
2000	4	5	1.25
2004	3.5	6	1.71
2008	3.5	6	1.71
2012	3	5.5	1.83

38) B

Method I:
Let the initial amount and the compound rate of interest be P and R respectively.
In 5 years the amount gets doubled, i.e. total amount=2P
In 10 years amount gets doubled again, i.e. total amount=4P
Similarly, in 15 years the total amount= 2 × 4P = 8P
Method II:
Using the formula of compound interest, we get:
Total amount after 5 years, 2P= P (1+R/100)5
or (1+R/100)5 = 2
or 1+R/100 = 21/5
Let the amount becomes 8 times after n years.
Hence, 8P = P (1+R/100)n = P (2n/5)
or 2n/5 = 23
or n/5 = 3, i.e. n = 15 years

39) D:

METHOD I
Let a right movement is denoted by R and a upward movement is denoted by U.
Thus, to travel from A to B a person has to take total 4 Rs and 3 Us.
Now total number of ways= total number of ways in which we can arrange 4 Rs and 3 Us.
Thus, total number of ways= 7! / (4!X3!)= 35
METHOD II
For attempting these types of questions, count the number of rows and columns.
Let us say the number of rows and columns be r and c.
The possible distinct routes =r+cCc = 3+4C4=7C3= (7x6x5)/6=35.

40) D:

Marks are given out of 50. Thus minimum marks required to pursue higher studies in any subject = 60% of 50 = 30 marks
Thus students with marks 30 and above in any subject can pursue higher studies in that subject.
Percentage of qualified students in a subject = [(Number of qualified students) / (Total students)] X 100
Percentage of qualified students in Physics = (30 / 60) X 100 = 50%
Percentage of qualified students in Chemistry = (35 / 65) X 100 = 53.8%
Percentage of qualified students in Mathematics = (21 / 45) X 100 = 46.67%

Percentage of qualified students in Biology = (28 / 50) X 100 = 56%
Thus the number of qualified students is the highest in case of Biology.

41) B

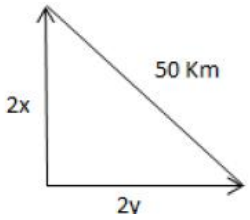
Total number of students in mathematics is 45.
We know that 50% of students are eligible to take part in the competition.
Thus, number of students eligible = 50% of 45 = 22.5
Thus at least 23 students are qualified to take part in the competition.
Now from the table we can see that
Number of Students with marks 30 and above = 21 and
Number of Students with marks 20 and above = 40
Thus minimum qualifying marks must be 20 and above.
Option (c) is incorrect as we don't know how many students have marks in the range of 25and above.
Thus, the most appropriate answer is option (b).

42) D

Kapil is taller than Bharti but shorter than Krishna. Sudesh is taller than Bharti. Hence, Kapil, Krishna and Sudesh are all taller than Bharti and hence cannot be the shortest person in the class.
The last statement states that Bharti is not taller than Sumona. It implies that Bharti may be of same height as Sumona or shorter than Sumona. If both Bharti and Sumona are of equal height, then they
both can be considered as the shortest persons in the class. Hence, we do not have sufficient data to decide who is the shortest, as Bharti and Sumona can be of the same height.

43) C:

Let the speed of the slower bus = x Km/h and speed of the faster bus = y Km/h.
So, y – x = 5 km/h ……..(i)
Distance covered by bus having lower speed in 2 hours = speed × time = 2x km.
Distance covered by bus having higher speed in 2 hours = speed × time = 2y km.
As one of the bus is moving towards north and the other towards east, the two will form a right-angled triangle as shown below:



Therefore, using Pythagoras theorem, we get:
$(2x)^2 + (2y)^2 = (50)^2$
Or $4x^2 + 4y^2 = 2500$
Or $x^2 + y^2 = 625$ ……(ii)
Solving (i) and (ii) we get:
x = 15 km/h
y = 20 km/h
So, the speed of bus going slower = 15 km/h.
Hence, option (c) is the correct answer.

44) B

45) D

46) (D)

Clearly, either F or G can be the slowest swimmer. Therefore, it cannot be determined.

47: (A)

Clearly, C is the fastest female swimmer

48) B

Let the number of boys be x.
Then, (3/4) x = 18 $\Longrightarrow$ x = 24
If the total number of students is y, then
(2/3) y = 24 $\Longrightarrow$ y = 36
Number of girls in the class = y – x = 36 – 24 = 12
Thus, 12 is the required number.
Hence, option (b) is the correct answer.

49) A

Seven pieces consist of 6 smaller equal pieces and one half of a cake.
Weight of each small piece = 20 gm
So weight of these 6 pieces= (20 x 6)
So, total weight of cake = 2 (20 x 6) = 240 gm.
Hence, option (a) is the correct answer.

50) B

Let the number of boys be x.
Then, (3/4) x = 18
x = 24
If the total number of students is y, then
(2/3) y = 24
y = 36
Number of girls in the class = y – x = 36 – 24 = 12
Thus, 12 is the required number.
Hence, option (b) is the correct answer.

51) C

Statement 1 and 2 are mentioned in the very 1st line of the passage. Passage says "Clean air is a public good, something that everyone should enjoy."
Statement 3 is incorrect. We cannot derive this meaning of public good from the passage.

52) C

Both statements are correct. Author gives both these reasons in the very first paragraph. According to the passage, "given the extent to which urban India's ambient air has deteriorated and the burden it places on human health, we can no longer tarry. WHO says New Delhi is the world's most polluted city, perversely making it an area where India has overtaken China's capital, Beijing."

53) D

The passage in para 3 clearly states – 'Now that oil refineries no longer subsidise the retail price of diesel, a capital crunch can't be an excuse to prevent upgradation of refineries for superior fuel.' Thus, author suggests Up-gradation of refineries. Statement 1 is correct.
Further author says 'It doesn't matter if auto lobbies protest' for implementation of BS V norms in Delhi.' Thus, statement 2 is also correct.
Statement 3 is also correct. The passage states – 'Also, tax incentives that favour diesel over petrol don't make sense given the environmental harm caused by diesel.'
Finally statement 4 is also correct. To quote the passage, 'Delhi and other major cities should shift to BS V.'

54) A

Paragraph 2 clearly suggests in favour of rationalization of labour laws. And the next paragraph suggests incentives like duty scrips to be available to SEZs too. Thus, statement 1 and 2 are correct.
In para 3 – 'Export obligation under the Export Promotion Capital Goods Scheme has also been reduced, ostensibly to give a boost to Make in India.' The word 'ostensibly' means – apparently. Therefore, the Make in India promotion is not a definite agenda of the new foreign trade policy. Thus, statement 3 is incorrect.
Th3 4th statement has been given as a suggestion by the author in para 4 and is not the part of Foreign Trade Policy.

55) D:

Attempt the question taking into account both para 2 and para 3.
Option (A) has not been implied for incentivizing the exporters. Option (B) is also not implied, the author does not say anywhere about need for more time. Option (C) is also incorrect. The time is not needed to enable a transition from one way to another.
Option (D) is correct. Passage states, "All this will only buy time and, at some point, our exporters have to be weaned off sops." Thus, closest in meaning to option (d).

56) D:

Here all the four options are correct according to the passage. But central idea must be inclusive of all that is discussed in the passage. Option (A), (B) and (c) are having having limited scope. Option (a) sums up first 3 paras only. Option (B) is about para 2 and para 3 only. And option (C)describes para 3 and para 4 only.

In contrast, option (D) discusses all 4 paragraphs of the passage. All the paras revolve around increasing the export competitiveness of the Indian economy.

57) A:

Statement 1 is correct as per the given passage. Paragraph 3 states that NN bars carriage providers from granting different content providers differential access to consumers in terms of pricing or speed.
Statement 2 goes against the intent of the author. Also, it is not mentioned in the passage. Statement 3 is also incorrect. Paragraph 3 states that Net Neutrality is not a fundamental right in India.
Statement 4 is correct . Last line of 4th paragraph says not ensuring Net Neutrality, kills innovation and competition.

58) B

Option (A) is incorrect. The two aspects have just been mentioned together. But this statement is not the implication of the question.
Option (B) is the correct option. It has been discussed in paragraph 5 and paragraph 6.
Option (C) is incorrect. These statements do not hold relevance together.

59) C

Let the initial number of MBA graduates be x.
Now, two of them joined a MNC company instead at the last moment, because of which each of the remaining had to contribute Rs. 2000 extra.
Thus, Final amount per head – Initial amount per head = 2,000 or [48000/(x - 2)] – 48000/x = 2000
or 48 [2/x(x - 2)] = 2 or x(x - 2) = 48 = 8 × 6
Hence, x = 8

60) C

As the committee must have atleast one women, two probable cases arise:
Case I: Committee has one man and one woman.
Number of possible ways of selection, S1 = 3C1 × 3C1 = 3 × 3 = 9.
Case II: Committee has two women and no man.
Number of possible ways of selection, S2 = 3C2 × 3C0 = 3 × 1 = 3.
Hence, the total possible ways of selection = S1 + S2 = 9 + 3 = 12

61) B

Let the number of runs scored by byes, wides and the two batsmen be x, y and z respectively:
So, x + y + z = 232 --------- (i)
The runs scored by the two batsmen are 26 times the wides, i.e. z = 26y --------- (ii)
There are 8 more byes than wides, i.e. x = y + 8 -------- (iii)
Substituting the value of x and z from equations (iii) and (ii) in equation (i), we get:
y = 8 and z = 208
The runs scored by Ram and Shyam were in the ratio 6 : 7. So, let the runs scored by Ram and Shyam be 6r and 7r respectively.
z = 6r + 7r = 13r = 208
⇒ r= 16
Total runs scored by Ram = 6r = 16×6= 96

62) A

The continuously rising curve of air pollution starts showing some sign of slowing down in the end portion of region 'B', which shows that the government has started making efforts to control the air pollution. Though, the impact is largely conspicuous in the later phase of region 'C'.

63) C:

In the 'D' region of the curve there is continuous reduction in the level of pollution. Hence, it may be said that the government has succeeded in combating the issue of pollution to a great extent. In the 'C' region, the government's efforts have started bearing fruit. However, it will be premature to say here that the government has succeeded in its aim. In region E the air pollution level has plateaued and there is no drastic reduction in the level of pollution.

64) B:

In region 'B' there is a continuous rise in the level of pollution, which may reflect the rise in the number of polluting vehicles and industries in Delhi. Though even in region 'A' nascent signs of pollution rise are present, however they are not as drastic as that in region 'B'.

65) B

Number of students who play only hockey = 50% - 15% = 35% of 200 = 70
Number of students who play only badminton = 30% - 15% = 15% of 200 = 30
Number of students who play both = 15% of 200 = 30
Hence, the total number of students in the class who play either or both of these = 70 + 30 + 30 = 130
Therefore, number of students who play neither of these = 200 - 130 = 70
Note: The question can also be solve by using Venn diagram.

66) B:

Clearly, D is to the immediate left of F.

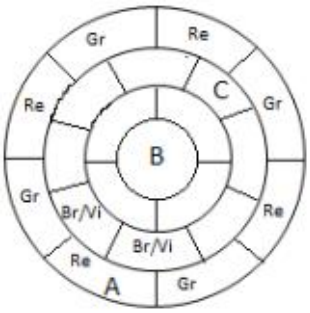
67: C

Clearly, H is to the immediate right of C.

Explanation for Questions 68 to 70:

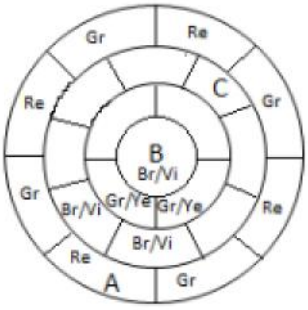
To minimize the number of different paints being used, each concentric circle divided into sectors would use 2 colours in alternative sectors, while the innermost circle would obviously use only 1 colour. To minimize the number further, colours have to be repeated in various sectors within the constraints given.

In the explanation figures we will denote Red, Green, Blue, Yellow, Cyan, Brown and Violet colours with their first two initials, i.e. Re, Gr, Bl, Ye, Cy, Br and Vi.



The sector A is painted red. It has 4 neighboring sectors (2 in the same circle as A and 2 in the inner concentric circle) which are to be painted using Green, Brown and Violet as per the 2nd condition. Green can't be used in the inner concentric circle as otherwise it would have to be used along with Brown or Violet which isn't allowed as per the 3rd condition. Thus, both the neighboring sectors of sector A in the outermost circle would be Green and those in the inner one would be Brown and Violet. Also, as has already been mentioned, so as to minimize the number of different paints being used, each concentric circle divided into sectors would use 2 colours in alternative sectors. Thus, the outermost circle will be filled with Red and Green colours only and the second circle from the outside will be filled with Brown and Violet colours only.

Hence, the 3rd circle from outside can't have Brown and Violet colours. Now, as per the 1st condition, due to the presence of Violet, Blue and Cyan can't be used as well in this circle. Thus, any two of the colours - Green, Red and Yellow, would have to be used in this circle. The combination of Green and Red can't be used as this combination has already been used in the outermost circle (any two concentric circles cannot have the same set of colours). Red and Yellow combination can't be used together either as Red sector must have only Green, Violet and Brown sectors in its neighborhood (2nd condition). Thus, here the combination of Green and Yellow would be used.



Thus, in the innermost circle, Green and Yellow can't be used. Due to presence of Yellow in the adjoining concentric circle, Red can't be used either. This leaves Blue, Cyan, Violet and Brown. To minimize different number of colours, we would use Violet or Brown as they have already been used in the 2nd concentric circle from the outside. The final picture that emerges can be depicted as follows:

Outermost Circle Red and Green
2nd concentric circle from outside Violet and Brown
3rd concentric circle from outside Green and Yellow
Innermost circle Violet or Brown

68) B: The number of different colours used = 5, i.e. Red, Green, Violet, Brown and Yellow

69) C

70) C

71) B:

Consider the second strip. Y, V and O are in a linear arrangement. So on folding in the form of a cube, Y will always come in front of O.
Therefore, Y and O will always be opposite to each other.
Hence, option (b) is the correct answer

72) B:

In each row, we get the second element by adding the square of first element to the third element.
For instance, (4)2+ 8= 24 and (1)2+ 9= 10
Thus, in case of the third row:
Let the missing number be x.
21 = (3)2+ x
or x = 12.
Hence, option (b) is the correct answer.

73) D:

A., B, C and D together have Rs 150.
Now, A pays Rs 20 to B, who pays Rs 20 to C, who gets Rs 30 from D and Rs 35 from A.
That means new amount with C= Initial amount+ (Rs 20 to C)+ (Rs 30 from D)+ (Rs 35 from A)
New amount with C= Initial amount+ 75
Thus, C has more than half of the money and remaining 75 Rs are distributed between A, B, and D.
Thus, C is the richest. Option (a) is correct. Similarly, options (b) and (c) are also correct as C has more money than all the remaining three. So certainly C has more money than what A and B together have or what A and D together have.
But nothing can be said about money with B and D. So, (d) is not correct

74) B:

Answer Justification:
From the given data, we can draw following inference: In decreasing order of marks:
A _ _ C _ _ or A _ C_ _ _ or AC _ _ _ _
Considering the statement 1:
Possible arrangement is A _ _ C _ _
Anyone of D and F can occupy the last place.
Hence, the statement 1 only is not sufficient to identify the one with the lowest marks.
Considering the statement 1:
The possible arrangements are:
A>E=F>C>B>D or A>B>C>E=F>D or A>C>E=F>B>D
Only statement 2 is sufficient to identify D as the one with the lowest marks.

75) D
76) A
77) D
78) C
79) B
80) A

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