Question Booklet Serial No.

ADMISSION TEST FOR PROGRAMME 2013 - 2015

Time: 2 Hours   **Marks: 100**

ROLL NUMBER

NAME (in Capital Letters)

INSTRUCTIONS

1. Write the **Question Booklet Serial Number** in the space provided in the **Answer Sheet. Question Booklet Serial Number** is given at the top of this page.
2. Write your **Roll No.** clearly in the space provided in both the **Question Booklet** and the **Answer Sheet.**
3. Mark your answers in the **Answer Sheet** only. The Answer Sheet **alone** will constitute the basis of evaluation.
4. All **rough work** must be done in the **Question Booklet** only.
5. Do not make any stray marks anywhere in the answer sheet.
6. Do not fold or wrinkle the answer sheet.
7. Use only **HB Pencil** to **mark the answers** in the answer sheet.
8. **All Questions have one correct answer. Every answer must be indicated clearly darkening one circle for each answer. If you wish to change an answer, erase completely the already darkened circle, then make a fresh mark. If you darken more than one circle your answer will be treated as wrong, as shown in the example below:**

WRONG METHOD   **RIGHT METHOD**

●   ②   ③   ●   ●   ②   ③   ④

9. There is **negative marking equivalent to 1/3ʳᵈ of the mark** allotted to the specific question for wrong answer.
10. There are four sections in the question paper. Sectional cut-offs are applicable for each of these four sections. Candidates are advised to spend time judiciously on different sections.
11. The candidates are advised to **read all options thoroughly.**
12. No clarification of any sort regarding the question paper is permitted.

SECTIONS IN THE QUESTION PAPER AND MARKS ALLOTED PER SECTION

SECTIONS	PART	NO. OF QUESTIONS	MARKS PER QUESTION	TOTAL MARKS
(a)	(b)	(c)	(d)	(e) = (c) × (d)
Section – I	Part – 1	20 (Questions 01 – 20)	0.75	**15**
	Part - 2	19 (Questions 21 – 39)	1.00	**19**
Section – II		25 (Questions 40 – 64)	1.00	**25**
Section – III	Part – 1	20 (Questions 65 – 84)	0.75	**15**
	Part - 2	16 (Questions 85 – 100)	0.75	**12**
Section – IV		28 (Questions 101 – 128)	0.5	**14**
Total		**128**		**100.00**

Section I (Part 1)

1. In the word HEIRARCHICAL, If the first and second, third and fourth, fourth and fifth, fifth and sixth letters are interchanged up to the last letter, which are the two position from the left on which R would appear and on which positions would C appear twice?

   (1) R – 3 and 5; C – 8 and 9
   (2) R – 9 and 10; C – 4 and 5
   (3) R – 4 and 5; C – 7 and 8
   (4) 4 and 5; C – 7 and 8

2. In the following series, what numbers should replace the question marks?
   –1, 0, 1, 0, 2, 4, 1, 6, 9, 2, 12, 16, ? ? ?

   (1) 11, 18, 27   (2) –1, 0, 3
   (3) 3, 20, 25   (4) Cannot be ascertained

3. Here are some words translated from an artificial language.
   dionot means oak tree
   blyonot means oak leaf
   blycrin means maple leaf
   Which word could mean "maple syrup"

   (1) blymuth   (2) hupponot
   (3) patricrin   (4) crinweel

4. Gita is older than her cousin Mita. Mita's brother Bhanu is older than Gita. When Mita and Bhanu are visiting Gita, all three like to play a game of Monopoly. Mita wins more often than Gita does. Which of the following can be concluded from the above?

   (1) When he plays Monopoly with Mita and Gita. Bhanu often loses.
   (2) Of the three, Gita is the oldest
   (3) Gita hates to lose at Monopoly
   (4) Of the three, Mita is the youngest.

5. Priya is taller than Tiya and shorter than Siya.
   Riya is shorter than Siya and taller than Priya.
   Riya is taller than Diya, who is shorter than Tiya.
   Arrange them in order of asending heights.

   (1) Priya – Siya – Riya – Tiya - Diya
   (2) Riya – Siya – Priya – Diya - Tiya
   (3) Siya – Riya – Priya – Tiya - Diya
   (4) Siya – Priya – Riya – Diya - Tiya

6. Statement 1: All chickens are birds.
   Statement 2: Some chickens are hens.
   Statement 3: Female birds lay eggs.
   If the above statement are facts, then which of the following must also be a fact?

   I.   All birds lay eggs.
   II. Hens are birds.
   III. Some chickens are not hens.

   (1) II only
   (2) II and III only
   (3) I, II and III
   (4) None of the statement is a known fact

7. Statement 1: Pictures can tell a story.
   Statement 2: All storybooks have pictures.
   Statement 3: Some storybooks have words.
   If the above statement are facts, then which of the following must also be a fact?
   I.   Pictures can tell a story better than words can.
   II. The stories in storybook are very simple
   III. Some storybooks have both words and pictures.

   (1) I only
   (2) II only
   (3) III onlr
   (4) None of the statement is a known fact

8. If IQS : LNV, then JRM : ?

   (1) OKS   (2) MOP
   (3) NIP   (4) MOQ

Directions for Questions 9 – 10: Some information is provided in the paragraph below. Answer the questions based on this information

A weekly television show routinely stars six actors, J, K, L, M, N and O. Since the show has been on the air for a long time, some of the actors are good friends and some do not get along at all. In an effort to keep peace, the director sees to it that friends work together and enemies do not. Also, as the actors have become more popular, some of them need time off to do other projects. To keep the schedule working, the director has a few things she must be aware of:

- J will only work on episodes on which M is working
- N will not work with K under any circumstances.
- M can only work every other week, in order to be free to film a movie.
- At least three of the actors must appear in every weekly episode.

9. In a show about L getting a job at the same company J already works for and K used to work for, all three actors will appear. Which of the following is true about the other actors who may appear?

   (1) M, N and O must all appear.
   (2) M may appear and N must appear.
   (3) M must appear and O may appear
   (4) O may appear and N may appear

10. Next week, the show involves N's new car and O's new refrigerator. Which of the following is true about the actors who may appear?

    (1) M, J, L and K all may appear.
    (2) J, L, and K must appear
    (3) L and K must appear.
    (4) Only L may appear.

Directions for Questions 11 – 12: Some information is provided in the paragraph below. Answer the questions based on this information.

Era is in charge of seating the speakers at a table. In addition to the moderator, there will be a pilot, a writer, an attorney, and an explorer. The speakers' names are Gaj, Hema, Jaya, Kumar, and Lalit

- The moderator must sit in the middle, in seat #3
- The attorney cannot sit next to the explorer
- Lalit is the pilot
- The writer and the attorney sit on either side of the moderator
- Hema, who is not the moderator, sits between Kumar and Jaya.
- The moderator does not sit next to Jaya or Lalit
- Gaj, who is attorney, sits in seat #4.

11. Who is moderator?

    (1) Lalit   (2) Gaj
    (3) Hema   (4) Kumar

12. Where does Jaya Sit?

    (1) seat #1   (2) seat #2
    (3) seat #3   (4) seat #4

Directions for Questions 13 – 14: Some information is provided in the paragraph below. Answer the questions based on this information.

A number arrangement machine, when given a particular input, rearranges it using a particular rule. The following is the illustration and steps of the arrangement.

Input	105	241	67	347	150	742	292	589
Step I	67	105	241	347	150	742	292	589
Step II	67	742	105	241	347	150	292	589
Step III	67	742	105	589	241	347	150	292
Step IV	67	742	105	589	150	241	347	292
Step V	67	742	105	589	150	347	241	292

Arrangement at Step V is the last for the given input

13. What should be the fourth step of the following input?

    64 326 187 87 118 432 219 348

    (1) 64 432 87 326 118 187 219 348
    (2) 64 432 87 348 326 187 118 219
    (3) 64 432 87 348 118 326 187 219
    (4) None of the above

14. How many steps will be required to get the final output from the following input?
    319 318 746 123 15 320 78 426

    (1) Four   (2) Five
    (3) Six   (4) Seven

15. P ≠ Q implies that Q is standing 2 kms to the right of P
    P * Q implies that Q is 2 kms to the left of P
    P @ Q implies that Q is 2 kms below P
    P $ Q implies that Q is standing 2 kms above P
    If F ≠ S $ B * V, in which direction is F with respect to V?

    (1) North   (2) South
    (3) East   (4) West

16. Immediately after leaving his house, Ratvik turned right and walked for 40m. Then he turned left and walked for 20mts. Then he again took a left turn and walked for 30mts. There he met a friend and turned right to go to the coffee shop 20 mts away. After having coffee, he walked back straight for 40mts in the direction he had come from. How far is he from his house?

(1) 20m   (2) 0m
(3) 10m   (4) 40m

17. Find the missing alphabet.

H	C	?
B	F	E
P	R	T

(1) Y   (2) O   (3) D   (4) G

18. In a four-day period – Monday through Thursday – each of the following temporary office workers worked only one day, each a different day. Jai was scheduled to work on Monday, but he traded with Raj, who was originally scheduled to work on Wednesday. Farid traded with Kajal, who was originally scheduled to work on Thursday. Finally, Jai traded with Kajal. After all the switching was done, who worked on Tuesday?

(1) Jai   (2) Farid
(3) Raj   (4) Kajal

19. Which four bits can be joined together to form two words that have opposite meanings?
ERT, UCE, DES, END, EXP, EAR, AND, SIP, RED, GOS
 1   2   3   4   5   6   7   8   9   10

(1) 2, 5, 7, 9   (2) 1, 3, 8, 10
(3) 1, 5, 8, 10   (4) 2, 4, 7, 8

20. If a clock is kept on the table in such a way that at 3 : 10 pm the hour hand points south, after how much time will the minute hand point east?

(1) 20 minutes   (2) 35 minutes
(3) 50 minutes   (4) 90 minutes

Section I (Part 2)

Directions for Questions 21 – 25: Analyse the following chart showing the exports and imports of Sono Ltd. and answer the questions based on this chart
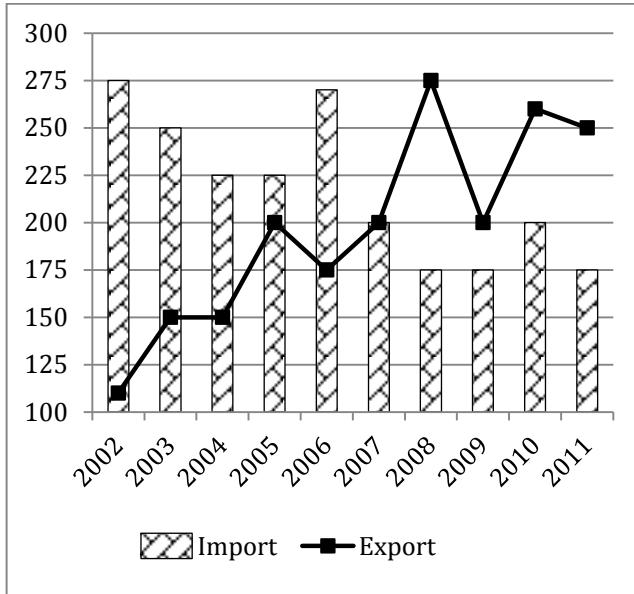
Import ▬■▬ Export

21. Approximately by what percentage are the total Exports greater/ smaller than the total imports for the given period?

(1) Greater by 9 percent
(2) Smaller by 10 percent
(3) Smaller by 9 percent
(4) Greater by 10 percent

22. If the absolute difference between imports and exports are ranked in ascending order, which year gets 4th rank?

(1) 2010   (2) 2008
(3) 2009   (4) None of the above

23. In which year was the fifth largest annual percentage increase in exports recorded?

(1) 2007   (2) 2005
(3) 2009   (4) None of the above

24. Which year saw the second largest annual percentage increase in imports?

(1) 2010   (2) 2005
(3) 2006   (4) None of the above

25. What is the approximate percentage point difference in the maximum annual percentage increase in export and the minimum annual percentage decrease in Imports?

(1) 28   (2) 48   (3) 64   (4) 12

Directions for Questions 26 – 31: Answer the questions on the basis of the table given below

Table : Production of Major Minerals and Metals (Million Tonnes)

Year	Aluminium	Coal	Copper	Gold	Iron Ore
2005	69	91	71	15	100
2006	75	88	75	18	120
2007	81	97	79	21	102
2008	98	107	88	25	131
2009	93	110	92	24	143
2010	99	116	97	20	154
2011	105	122	103	25	163

26. Which mineral/metal witnessed highest growth rate in production from 2005 to 2011?

(1) Iron Ore   (2) Aluminium
(3) Gold   (4) Copper

27. Which year has witnessed highest absolute increase in total production of minerals and metals?

(1) 2006   (2) 2008
(3) 2011   (4) None of the above

28. Highest annual growth rate in production is recorded in

(1) Iron Ore in 2008
(2) Gold in 2011
(3) Aluminium in 2008
(4) Gold in 2006

29. If annual average growth rate in production exhibited during 2006 to 2011 continues for next 4 years, then what will be the approximate production of aluminium in the year 2015?

(1) 125 million tonnes
(2) 140 million tonnes
(3) 155 million tonnes
(4) 160 million tonnes

30. In which year is the proportion of copper production in the total mineral and metal production the highest?

(1) 2010   (2) 2008
(3) 2009   (4) 2007

31. Which mineral/metal witnessed the minimum growth rate in production from 2006 to 2010?

(1) Aluminium   (2) Coal
(3) Copper   (4) Gold

Directions for Questions 32 – 34: Answer the questions on the basis of the following table.

Table : Region Wise Origin of Foreign Tourists Arriving Into India

	Region	Number of Arrivals			
		2007	2008	2009	2010
1	North America	1,007,276	1,027,297	1,051,209	1,173,664
2	Central and South America	42,319	43,505	46,604	54,728
3	Western Europe	1,686,083	1,709,525	1,634,042	1,750,342
4	Eastern Europe	152,764	185,110	183,475	227,650
5	Africa	157,485	141,750	164,474	204,525
6	West Asia	171,661	210,542	204,843	235,317
7	South Asia	982,428	1,051,846	1,001,401	1,047,444
8	South East Asia	303,475	332,925	360,191	409,043
9	East Asia	352,037	355,230	322,797	411,947
10	Australasia	167,063	178,308	182,451	210,275
11	Others	58,913	35,565	16,212	12,757

32. Which region witnessed the highest compound annual growth rate(CAGR) of tourists arriving into India?

(1) Eastern Europe
(2) Central and South America
(3) West Asia
(4) South East Asia

33. Tourists arriving into India from how many regions experienced CAGR of more than 10%?

(1) Three   (2) Four
(3) Five   (4) Two

34. The highest annual growth rate recorded in tourists arriving from any region in any year is

(1) Africa   (2) Eastern Europe
(3) West Asia   (4) East Asia

Directions for Questions 35 – 37: Read the information given below, analyse the following chart of Domestic sales and production of a country and answer the questions

Following charts present data about the domestic sales and production of LCD, LED and Plasma TVs produced and sold in a country (in number of units). Differences in production and sales will be bridged through external trade (i.e. exports and imports) of the TV category during a given year.

Sales

Production

LCD   LED   Plasma
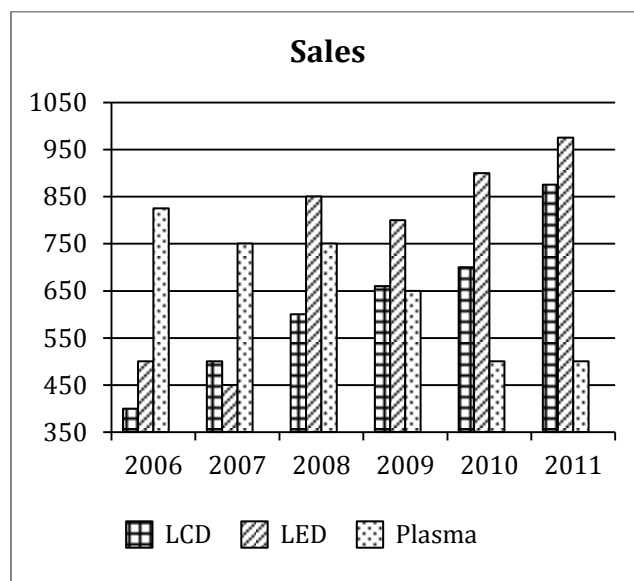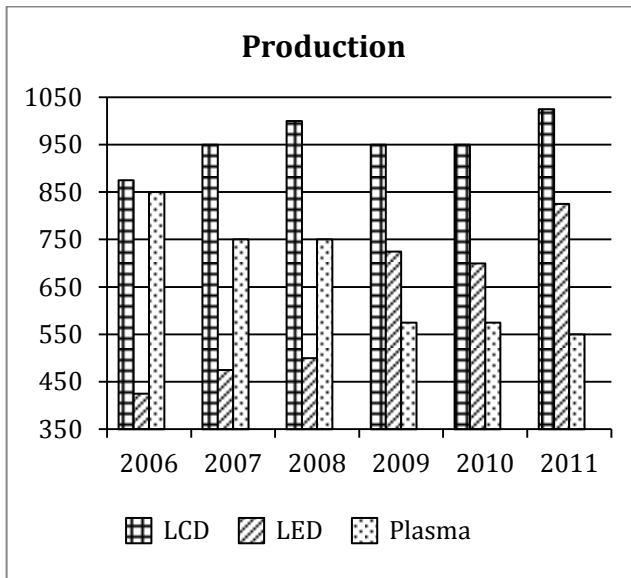
35. What year has registered the highest external trade in total number of TV units?

(1) 2006   (2) 2007
(3) 2008   (4) 2010

36. In which year are the net exports (exports – imports) of all the categories taken together the highest?

(1) 2006   (2) 2007
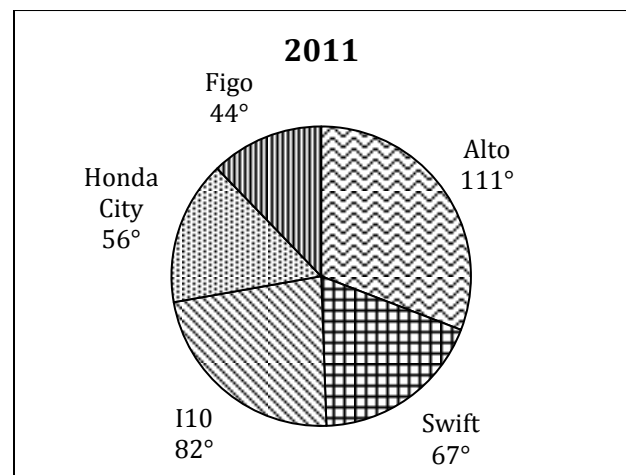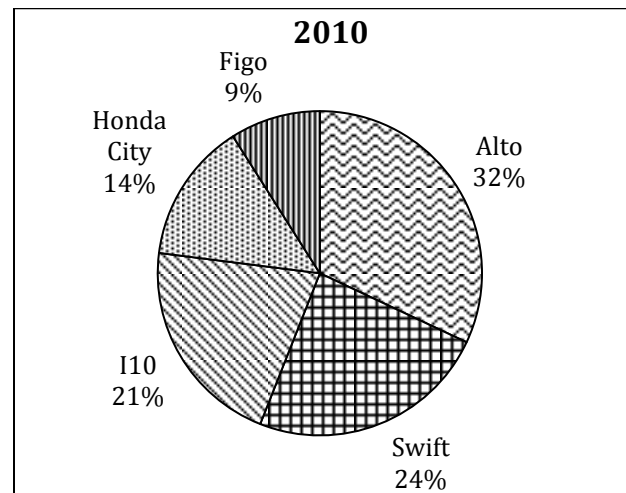(3) 2009   (4) 2010

37. Examine the following statements

  I.   LCD TVs were always exported
  II. Net exports of all the categories of TVs for all the years is 1275
  III. In only one year the production of plasma TVs fell short of sales

Select the best option

(1) Statement I alone is correct
(2) Statement I and II are correct
(3) Statement I and III are correct
(4) All three statements are correct

Directions for Questions 38 – 39: Study the following pie charts regardig to sales of 5 models of cars for the years 2010 and 2011, and answer the question

2010

Figo 9%
Honda City 14%
Alto 32%
I10 21%
Swift 24%

2011

Figo 44°
Honda City 56°
Alto 111°
I10 82°
Swift 67°

38. If the 2010 sales for all car models is 80,000 and these have grown by 25% in 2011, then what is the approximate increase in the number of Figo cars sold in 2011 over 2010?

(1) 4,860   (2) 12,200
(3) 4,500   (4) 2,200

39. If the 2010 sales for all car models is 80,00 and these have grown by 25% in 2011, then how many models have grown more than the average growth rate for all the models taken together?

(1) 2   (2) 3
(3) 4   (4) None of the above

Section II

40. If k is an integer and 0.0010101×10^k is greater than 1000, what is the least possible value of k?

(1) 4   (2) 5
(3) 6   (4) 7

41. Ashish is studying late into the night and is hungry. He opens his mother's snack cupboard without switching on the lights, knowing that his mother has kept 10 packets of chips and biscuits in the cupboard. He pulls out 3 packets from the cupboard, and all of them turn out to be chips. What is the probability that the snack cupboard contains 1 packet of biscuits and 9 packets of chips?

(1) $\dfrac{6}{55}$ (2) $\dfrac{12}{73}$

(3) $\dfrac{14}{55}$ (4) $\dfrac{7}{50}$

42. The equation $7^{x-1} + 11^{x-1} = 170$ has

(1) no solution   (2) one solution
(3) two solutions   (4) three solutions

43. The annual production in cement industry is subject to business cycles. The production increases for two consecutive years consistently by 18% and decreases by 12% in the third year. Again in the next two years, it increases by 18% each year and decreases by 12% in the third year. Talking 2008 as the base year, what will be the approximate effect on cement production in 2012?

(1) 24% increase   (2) 37% decrease
(3) 45% increase   (4) 60% decrease

44. If log 3, log(3^x – 2) and log (3^x + 4) are in arithmetic progression, then x is equal to

(1) $\dfrac{8}{3}$ (2) $\log_3 8$

(3) $\log_2 3$ (4) 8

45. A student is required to answer 6 out of 10 questions in an examination. The questions are divided into two groups, each containing 5 questions. She is not allowed to attempt more than 4 questions from each group. The number of different ways in which the student can choose the 6 questions is

(1) 100   (2) 160
(3) 200   (4) 280

46. The answer sheets of 5 engineering students can be checked by any one of 9 professors. What is the probability that all the 5 answer sheets are checked by exactly 2 professors?

(1) 20/2187   (2) 40/2187
(3) 40/729   (4) None of the above

47. Mr. Mishra invested Rs. 25,000 in two fixed deposits X and Y offering compound interest @ 6% per annum and 8% per annum respectively. If the total amount of interest accrued in two years through both fixed deposits is Rs. 3518, the amount invested in Scheme X is

(1) Rs. 12,000   (2) Rs. 13,500
(3) Rs. 15,000   (4) Cannot be determined

48. The probability that in a household LPG will last 60 days or more is 0.8 and that it will last at most 90 days is 0.6. The probability that the LPG will last 60 to 90 days is

(1) 0.40   (2) 0.50
(3) 0.75   (4) None of the above

49. In 2011, Plasma – a pharmaceutical company – allocated Rs. 4.5×10^7 for Research and Development. In 2012, the company allocated Rs, 60,000,000 for Research and Development. If each year the funds are evenly divided among 2×10^2 departments, how much more will each department receive this year than it did last year?

(1) Rs. 2.0×10^5 (2) Rs. 7.5×10^5
(3) Rs. 7.5×10^4 (4) Rs. 2.5×10^7

50. In a circular field, there is a rectangular tank of length 130 m and breadth 110 m. If the area of the land portion of the field is 20350 m² then the radius of the field is

(1) 85 m   (2) 95 m
(3) 105 m   (4) 115 m

51. A hemispherical bowl is filled with hot water to the brim. The contents of the bowl are transferred into a cylindrical vessel whose radius is 50% more than its height. If diameter of the bowl is the same as that of the vessel, the volume of the hot water in the cylindrical vessel is

(1) 60% of the cylindrical vessel
(2) 80% of the cylindrical vessel
(3) 100% of the cylindrical vessel
(4) None of the above

52. There are two buildings, one on each bank of a river, opposite to each other. From the top of one building – 60 m high, the angles of depression of the top and the foot of the other building are 30° and 60° respectively. What is the height of the other building?

(1) 30 m   (2) 18 m
(3) 40 m   (4) 20 m

53. It takes 15 seconds for a train travelling at 60 km/hour to cross entirely another train half its length and travelling in opposite direction at 48 km/hour. It also passes a bridge in 51 seconds. The length of the bridge is

(1) 550 m   (2) 450 m
(3) 500 m   (4) 600 m

54. 12 men can complete a work in ten days. 20 women can complete the same work in twelve days. 8 men and 4 women started working and after nine days 10 more women joined them. How many days will they now take to complete the remaining work?

(1) 2 days   (2) 5 days
(3) 8 days   (4) 10 days

55. The Howrah-Puri express can move at 45 km/hour without its rake, and the speed is diminished by a constant that varies as the square root of the number of wagons attached. If it is known that with 9 wagons, the speed is 30 km/hour, what is the greatest number of wagons with which the train can just move?

(1) 63   (2) 64
(3) 80   (4) 81

56. At a reputed Engineering College in India, total expenses of a trimester are partly fixed and partly varying linearly with the number of students. The average expense per student is Rs. 400 when there are 20 students and Rs 300 when there are 40 students. When there are 80 students, what is the average expense per student?

(1) Rs. 250   (2) Rs. 300
(3) Rs. 330   (4) Rs. 350

57. Rohit bought 20 soaps and 12 toothpastes. He marked-up the soaps by 15% on the cost price of each, and the toothpastes by Rs. 20 on the cost price each. He sold 75% of the soaps and 8 toothpastes and made a profit of Rs. 385. If the cost of a toothpaste is 60% the cost of a soap and he got no return on unsold items, what was his overall profit or loss?

(1) Loss of Rs. 355   (2) Loss of Rs. 210
(3) Loss of Rs. 250   (4) None of the above

58. The value of $\sqrt{7 + \sqrt{7 - \sqrt{7 + \sqrt{7 - \ldots \infty}}}}$ is

(1) 1   (2) 2
(3) 3   (4) 4

59. The unit digit in the product of $(8267)^{153} \times (341)^{72}$ is

(1) 1   (2) 2
(3) 7   (4) 9

60. Z is the product of first 31 natural numbers. If X = Z + 1, then the numbers of primes among X + 1, X + 2, …, X + 29, X + 30 is

(1) 30
(2) 2
(3) Cannot be determined
(4) None of the above

61. A 10 litre cylinder contains a mixture of water and sugar, the volume of sugar being 15% of total volume. A few litres of the mixture is released and an equal amount of water is added. Then the same amount of the mixture as before is released and replaced with water for a second time. As a

result, the sugar content becomes 10% of total volume. What is the approximate quantity of mixture released each time?

(1) 1 litres   (2) 1.2 litres
(3) 1.5 litres   (4) 2 litres

62. Eight points lie on the circumference of a circle. The difference between the number of triangles and the number of quadrilaterals that can be formed by connecting these points is

(1) 7   (2) 14
(3) 32   (4) 84

63. The perimeter of a right-angled triangle measures 234 m and the hypotenuse measures 97 m. Then the other two sides of the triangle are measured as

(1) 100 m and 37 m   (2) 72 m and 65 m
(3) 80 m and 57 m   (4) None of the above

64. A sum of Rs. 1400 is divided amongst A, B, C and D such that
A's share : B's share = B's share : C's share

$= $ C's share : D's share $= \dfrac{3}{4}$

How much is C's share?

(1) Rs. 72   (2) Rs. 288
(3) Rs. 216   (4) Rs. 384

Section III (Part 1)

Directions for questions 65 – 66: A number of sentences are given below, which when properly sequenced, form a coberent paragraph. Choose the most logical order of sentences from the choice given to construct a coherent paragraph.

65.
I. Have you ever gone through a book that was so good you kept hugging yourself mentally as you read?

II. Now, notice the examples I have used

III. Have you ever seen a play or motion picture that was so charming that you felt sheer delight as you watched?

IV. I have not spoken of books that grip you emotionally, of plays and movies that keep you on the edge of your seat in surprise, or of food that satisfies a ravenous hunger.

V. Or perhaps you have had a portion of pumpkin pie, light and airy and midly flavoured, and with a flaky, delicious crust, that was the last word in gustatory enjoyment?

(1) I, V, III, IV, II   (2) III, V, II, IV, I

(3) IV, II, I, III, V   (4) I, III, V, II, IV

66.
I. All these help hasten download and optimize the farmer's usage of the internet within the available bandwidth.

II. ITC has learnt invaluable lessons from finding creative local solutions on the ground, to some of these apparently intractable problems.

III. Solutions include the use of RNS kits in the telephone exchanges or, setting up VSAT to tide over connectivity problems, and using solar power as the back-up source of electricity.

IV. It has also adopted special imaging techniques.

V. It has applied the template approach to manage content.

(1) V, IV, I, II, III   (2) V, IV, III, I, II

(3) II, IV, I, V, III   (4) II, III, V, IV, I

Directions for questions 67 – 68: In each question, a sentence is written in four different ways. Choose the option which gives the most effective and grammatically correct sentence. Pay attention to grammar, word choice and sentence construction.

67.
(1) It was thought that freedom and prosperity would spread gradually throughout the word through an orderly process, and it was hoped that tyranny and injustice would continually diminish.

(2) It was gradually thought that throughout the world, freedom and prosperity would spread through an orderly process, and it was hoped that tyranny and injustice would continually diminish.

(3) Through an orderly process, it was thought that freedom and prosperity would spread gradually throughout the world, and it was hoped that tyranny and injustice would continually diminish.

(4) It was thought, through an orderly process that freedom and prosperity would spread gradually throughout the world and it was hoped that tyranny and injustice would continually diminish.

68.
(1) He must again learn to invoke the energy of growing things and to recognize, that one can be taking from the earth and the atmosphere only so much as one puts back into them, as did the ancient in India centuries ago.

(2) As did the ancient in India centuries ago, he must again learn to invoke the energy of growing things and to recognize that one can take from the earth and the atmosphere, only so much as they put into them.

(3) He must again learn to invoke the energy of growing things and to recognize, as did the ancient in India centuries ago, that one can take from the earth and the atmosphere, only so much as one puts back into them.

(4) He must again learn, as did the ancient in India centuries ago, to invoke the energy of growing things and to recognize, that one can

be taking from the earth and the atmosphere, only so much as one puts back into them.

Directions for questions 69 – 70: From the choices provided, identify the pair of words with a relationship similar to that of the given word pair.

69. INDEFATIGABLE: INVETERATE::

(1) Tireless: Tired
(2) Tired: Habitual
(3) Tireless: Habitual
(4) Impoverished: Habitual

70. MISANTHROPE: HUMANITY::

(1) Chauvinist: Patriot
(2) Misogynist: Women
(3) Agnostic: God
(4) Witch: Magic

Direction for questions 71 – 72: Choose the option which gives the correct meaning in the same order as the words.

71.

1	Arrogate	i	clinch or seize without right
2	Arraign	ii	embarrassment due to disappointment
3	Chagrin	iii	to enroll for compulsory service
4	Conscript	iv	to swing back and forth
5	Vacilate	v	To bring before court of law

(1) 1 – v, 2 – i, 3 – iv, 4 – iii, 5 - ii
(2) 1 – i, 2 – v, 3 – ii, 4 – iii, 5 - iv
(3) 1 – ii, 2 – v, 3 – iii, 4 – i, 5 - iv
(4) 1 – iii, 2 – iv, 3 – ii, 4 – v, 5 - i

72.

1	Ephemeral	i	an alcoholic drink taken before a meal
2	Ethereal	ii	fleeting/short lived
3	Aperitif	iii	frankness
4	Candour	iv	illusion
5	Chimera	v	spiritual/not of this world

(1) 1 – v, 2 – ii, 3 – iii, 4 – i, 5 - iv
(2) 1 – ii, 2 – iv, 3 – i, 4 – iii, 5 - v

(3) 1 – iv, 2 – v, 3 – i, 4 – ii, 5 - iii
(4) 1 – ii, 2 – v, 3 – i, 4 – iii, 5 - iv

Directions for questions 73 – 74: Each question has five sentences. Identify the sentence which is grammatically correct.

73.

(1) Each of the six boys in the class has finished their task.
(2) One must finish his task in time.
(3) Either Ram or Shyam will give their book.
(4) Each of the girls must carry her own bag.

74.

(1) The reason why he missed his classes was that he overslept.
(2) Before the rain would stop, they would have reached home.
(3) When you will come to see me, we will go to Mumbai.
(4) I have written both to their branch office and head office

Directions for question 75 – 76: Choose the most appropriate option for filling in the blanks. The sequence of words in the correct option should match the sequence of the sentences in which they should be used.

75.

i. There is so much love………………the two of them.
ii. I have not seen Aditi………………Friday.
iii. I started my exam preparation……………January.
iv. The three sisters did not look for new friend as they were quite happy playing……… themselves.
v. I have not seen Mohan……………….six months.

(1) between, from, since, among, for
(2) among, from, for, between, since
(3) among, since, for, between, from
(4) between, since, from, among, for

76.

i. He succeeded……………..perseverance and sheer hard work.
ii. ……………………………the power vested in me, I hereby declare these premises sealed.

iii. ....his illness he could not finish his work in time.

iv. ....need, please contact me at the emergency number indicated.

(1) by virtue of, by dint of, in case of, in consequence of

(2) by dint of, by virtue of, in consequence of, in case of

(3) by virtue of, in consequence of, by dint of, in case of

(4) by dint of, in consequence of, by virtue of, in case of

77. Which of the following is a metaphor?

(1) He fought like a lion
(2) She is as cool as a cucumber
(3) Man proposes, God disposes
(4) He was a lion in the fight

78. Which of the following is an oxymoron?

(1) She accepted it, as the kind cruelty of a surgeon's knife
(2) The camel is the ship of the desert
(3) Art lies in concealing art
(4) Death lays his icy hands on Kings

Direction for questions 79 – 80: Pick the correct antonym for the word given

79. PUERILE

(1) Adult   (2) servile
(3) Peaceful   (4) Ambiguous

80. PROSAIC

(1) Predisposed   (2) Useful
(3) Interesting   (4) Mundane

Directions for questions 81 – 82: Pick the word with the correct spelling

81.
(1) Exorbitant   (2) Exhorbitant
(3) Exhobitant   (4) Exxorhbitant

82.
(1) Acqueisence   (2) Acquiescence
(3) Acaueiscence   (4) Acquescience

Directions for questions 83 – 84: Pick the odd word out

83.
(1) Perilous   (2) Precarious
(3) Hazardous   (4) Copious

84.
(1) Propitiate   (2) Appreciate
(3) Appease   (4) Conciliate

Section III (Part 2)

Direction for questions 85 - 100: Read the following passages carefully and answer the questions at the end of each passage

Passage 1

Asked what a business is, the typical businessman is likely to answer, "An organisation to make a profit." The typical economist is likely to give the same answer. This answer is not only false, it is irrelevant.

The prevailing economic theory of the mission of business enterprise and behaviour, the maximization of profit which is simply a complicated way of phrasing the old saw of buying cheap and selling dear — may adequately explain how Richard Sears operated. But it cannot explain how Sears, Roebuck or any other business enterprise operates, or how it should operate. The concept of profit maximization is. in fact, meaningless. The danger in the concept of profit maximization is that it makes profitability appear a myth.

Profit and profitability are, however, crucial for society even more than for the individual business. Yet profitability is not the purpose of, but a limiting factor on business enterprise and business activity. Profit is not the explanation, cause, or rationale of business behaviour and business decisions, but rather the test of their validity. If archangels instead of businessmen sat in directors' chairs, they would still have to be concerned with profitability, despite their total lack of personal interest in making profits.

The root of the confusion is the mistaken belief that the motive of a person — the so called profit motive of the businessman is an explanation of his behaviour or his guide to right action. Whether there is such a thing as a profit motive at all is highly doubtful. The idea was invented by the classical economists to explain the economic reality that their theory of static equilibrium could not explain. There has never been any evidence for the existence of the profit motive, and we have é long since found the true explanation of the phenomena of economic change and fig growth which the profit motive was first put forth to explain.

It is irrelevant for an understanding of business behaviour, profit, and profitability, whether there is a profit motive or iiot. That Jim Smith is in business to make a profit concerns only him and the Recording Angel. It does not tell us what Jim 5 Smith does and how he performs. We do not learn anything about the work of a prospector hunting for uranium in the Nevada desert by being told that he is trying to make his fortune. We do not learn anything about the work of a heart specialist by being told that he is trying to make a livelihood, or even that he is trying to benefit humanity. The profit motive and its offspring maximisation of profits are just as irrelevant to the function of a business, the purpose of a business, and the job of managing a business.

In fact, the concept is worse than irrelevant: it does harm. It is a major cause of the misunderstanding of the nature of profit in our society and of the deep — seated hostility to profit, which are among the most dangerous diseases of an industrial society. It is largely responsible for the worst mistakes of public policy — in this country as well as in Western Europe — which are squarely based on the failure to understand the nature, function, and purpose of business enterprise. And it is in large part responsible for the prevailing belief that there is an inherent contradiction between profit and a company's ability to make a social contribution. Actually, a company can make a social contribution only if it is highly profitable.

To know what a business is, we have to start with its purpose. Its purpose must lie outside of the business itself. In fact, it must lie in society since business enterprise is an organ of society. There is only one valid definition of business purpose: to create a customer.

Markets are not created by God, nature, or economic forces but by businesspeople. The want a business satisfies may have been felt by the customer before he or she was offered the means of satisfying it. Like food in a famine, it may have dominated the customer's life and filled all his waking moments, but it remained a potential want until the action of business people converted it into effective demand. Only then is there a customer and a market. The want may have been unfelt by the potential customer; no one knew that he wanted a Xerox machine or a computer until these became available. There may

have been no want at all until business action created it — by innovation, by credit. by advertising, or by salesmanship. In every case, it is business action that creates the customer.

85. The author of this passage is of the opinion that profits and profitability are:

(1) The purpose of setting up a business
(2) The sole goal and responsibility of a businessman
(3) The test of validity of business existence
(4) The guiding factor for a businessman's actions and decisions

86. This passage highlights that the theory of profit maximisation and profit motive

(1) Is largely responsible for the worst mistakes in public policy
(2) Is a synchronised goal with a „cf)mpany's ability to make a social contribution
(3) Is the main purpose and job of managing a business
(4) Was an idea not invented by classical economists

87. As stated in this passage, the purpose of a business is to

(1) Make profits   (2) Increase wants
(3) Create customers (4) Manage Demand

88. According to the author of this passage, what comes first?

(1) Want   (2) Market
(3) Demand   (4) Customer

Passage 2

The first thing I learned at school was that some people are idiots; the second thing I learned was that some are even worse. I was still too young to grasp that people of breeding were meant to affect innocence of this fundamental distinction. and that the same courtesy applied to any disparity that might rise out of religious. racial, sexual class, financial and (latterly) cultural difference. So in my innocence I would raise my hand every time the teacher asked a question, just to make it clear I knew the answer.

After some months of this, the teacher and my classmates must have been vaguely aware I was a good student, but still I felt the compulsion to raise my hand. By now the teacher seldom called on me, preferring to give other children a chance to speak, too. Still my hand shot up without my even willing it, whether or not l knew the answer. If I was putting on airs, like someone who even in ordinary clothes, adds a'gaudy piece of jewellery, it's also true that I admired my teacher and was desperate to cooperate.

Another thing I was happy to discover at school was the teacher's 'authority'. At home, in the crowded and disordered Pamuk Apartments, things were never so clear; at our crowded table, everyone talked at the same time. Our domestic routines, our love for one another, our conversations, meals and radio hours; these 'were never debated — they just happened. My father held little obvious authority at home, and he was often absent. He never scolded my brother or me, never even raised his eyebrows in disapproval. In later years, he would introduce us to his friends as 'my two younger brothers', and we felt he had earned the right to say so. My mother was the only authority I recognised at home. But she was hardly a distant or alien tyrant: her power came from my desire to be loved by her. And so - I was fascinated by the power my teacher wielded over her twenty-five pupils.

Perhaps I identified my teacher with my mother, for I had an insatiable desire for her approval. 'Join your arms together like this and sit down quietly,' she would say, and I would press my arms against my chest and sit patiently all through the lesson. But gradually the novelty wore off; soon it was no longer exciting to have every answer or solve an arithmetic problem ahead of everyone else or earn the highest mark; time began to flow with painful slowness, or stop flowing altogether.

Turning away from the fat, half-witted girl who was writing on the blackboard, who gave everyone — teachers, school caretakers and her classmates — the same vapid, trusting smile, my eyes would float to the window, to the upper branches of the chestnut tree that I could just see rising up between the apartment buildings. A crow would land on a branch. Because I was viewing it from below, I could see the little cloud floating behind it — as it moved, it kept changing shape: first a fox's nose, then a head, then a dog. I didn't want it to stop looking like a dog, but as it

continued its journey it changed into one of the four-legged silver sugar bowls from my grandmother's always—locked display case, and I'd long to be at home. Once I'd conjured up the reassuring silence of the shadows of home, my father would step out from them, as if from a dream, and off we'd go on a family outing to the Bosphorus. Just then, a window in the apartment building opposite would , open, a maid would shake her duster and gaze absentmindedly at the street that I could not see from where I was sitting. What was going down there? I'd wonder. I'd hear a horse cart rolling over the cobblestones, and a rasping voice would cry out 'Eskiciiiiiii! The maid would watch the junk dealer make his way down the street before pulling her head back inside and shutting the window behind her, but then, right next to that window, moving as fast as the first cloud but going in the opposite direction, I'd see a second cloud. But now my attention was called back to the classroom, and seeing all the other raised hands, I would eagerly raise my hand too: long before I worked out from my classrnates' responses what the teacher had asked us, I was foggily confident I had the answer.

It was exciting, though sometimes painful, to get to know my classmates as individuals, and to find out how different they were from me. There was that sad boy who, whenever he was asked to read out loud in Turkish class, would skip every other line; the poor boy's mistake was as involuntary as the laughter it would elicit from the class. In first grade, there was a girl who kept her red hair in a ponytail, who sat next to me for a time. Although her bag was a slovenly jumble of half-eaten apples, simits, sesame seeds, pencils and hair bands, it always smelled of dried lavender around her, and that attracted me; I was also drawn to her for speaking so openly about the little taboos of daily life, and if I didn't see her at the weekend, I missed her, though there was another girl so tiny and delicate that I was utterly entranced by her as well. Why did that boy keep on telling lies even knowing no one was going to believe him'? How could that girl be so indiscreet about the goings-on in her house? And could this other girl be shedding real tears as she read that poem about Atatiirk?'
Just as I was in the habit of looking at the fronts of cars and seeing noses, so too did I like to scrutinise my classmates, looking for the creatures they resembled. The boy with the pointed nose was a fox

and the big one next to him was, as everyone said, a bear, and the one with the thick hair was a hedgehog... I remember a Jewish girl called Mari telling us all about Passover — there were days when no one in her grandmother's house was allowed to touch the light switches. Another girl reported that one evening, when she was in'her room, she turned around so fast she glimpsed the shadow of an angel — a fearsome story that stayed with me. There was a girl with very long legs who wore very long socks and always looked as if she was about to cry; her father was a government minister and when he died in a plane crash from which Prime Minister Menederes emerged without a scratch, I was sure she'd been crying because she had known in advance what was going to happen. Lots of children had problems with their teeth; a few wore braces. On the top floor of the building that housed the lycée dormitory and the sports hall, just next to the infirmary, there was rumoured to be a dentist, and when teachers got angry they would often threaten to send naughty children there. For lesser infractions pupils were made to stand in the corner between the blackboard and the door with their backs to the class, sometimes one leg, but because we were all so curious to see how long someone could stand on one leg, the lessons suffered, so this particular punishment was rare.

89. The synonym for the term 'vapid' is

(1) Lively   (2) Original
(3) Lacklustre   (4) Spicy

90. Who is the least talked about character in this passage?

(1) Mother   (2) Classmates
(3) Grandmother   (4) Teacher

91. Which among the following cannot be concluded from this passage?

(1) The author was a good student but sometimes felt bored in class
(2) The author got along fairly well with his classmates
(3) The author came from a very authoritarian home environment
(4) The author had an imaginative mind

92. What did the teachers do when they get angry?

(1) Sent the students to the infirmary

(2) Denied them a chance to answer questions

(3) Made them' join their hands togetlier and sit quietly

(4) Threatened to send them to the dentist .

Passage 3

Not many people saw it coming. It had seemed that the time for Kaun Banega Crorepati had come and gone. This column argued as much a few years ago, when Shah Rukh Khan took over the reigns of the show. He did well enough, but it still seemed that the time for the genteel game of knowledge had passed. There was too much blood in reality television, and KBC simply did not have enough platelets for it. It had no backbiting intrigue, it lacked a cast of almost-losers and missed the low-life loquaciousness of other reality shows, and nothing ever needed to be beeped out on it, a sure touch that it was out of touch with the times.

And yet, not only is KBC back, but it is back in a very real sense not just as a TV show that gets good ratings, but as an idea that connects with something deep and real in our lives. What makes this particularly interesting is that not very much has changed in the show. Its focus has shifted to smaller towns andan 'aadmi' more 'aam', and the prize money has gone up over the years, but these are minor adjustments, not major departures. The format is pretty much the same and the return of Amitabh Bachchan restores to the show both the gravitas and the empathy that has been its hallmark.

Perhaps KBC works because it reconciles many competing ideas for us. For a show that bestows undreamt of wealth on people who win. and does so with reasonable regularity, KBC manages somehow to rise above the money it throws 1 around. By locating money squarely in the context of small dreams, family and community, KBC shows us a face of money that is ennobling. The money of KBC is treated not as a jackpot but as a 'vardaan', a gift from divinity that comes for one's persistent effort, a prize for the penance called ordinary life. The images that surround the winners are not big cars and fancy brands. but houses made 'pukka' and IAS dreams pursued. The winners have been remarkable ambassadors for the show, focusing not what the

money buys them but what it enables them to work at in the future. Money speaks in the language of responsibility, not indulgence and steeps a larger collective in its pleasing warmth.

The format of the show ensures that we see people as they are, rather than the usual sight of raw innocents losing their transparent naiveté in a haze of hair dye and exfoliation. On other reality shows, fame and money are insistent in transforming those that they favour and what they tell us is that success must put distance between destination and sources. between who we are and what we must become. On it iw the innocence that is spoken to and as an audience it is this quahty we respond to. When a Sushi] Kumar descnbes hfe and attributes his success to his_wife, who in turn is quick to shyly shrug off the credit, we see, for once, something that smacks of the real on a reality show.

As the reality show evolved, it found reality too boring and vapid. It was so much for fun to manufacture it by making people act in unpleasant ways. and say unsavoury things to each other. Now, no reality show can really bring us reality; any act of representation and framing creates its own version of reality in many different ways I by aestheticizing it. emotionalising moments, dramatising revelations, withholding information selectively, or by imbuing some moments with significance, while ignoring others and even KBC uses these techniques. The difference is that it uses these to drive us towards the central premise of the show rather than see those as individual 'masala' elements. In a world where television is racked by anxiety about itself, and where every new season is an exercise in renewed desperation, KBC stands apart by continuing to tell a human story about dreams and their fulfilment and doing so without trying too hard.

There is no question that KBC rests on the persona of Amitabh Bachchan for he reconciles for us the idea of fame and humility, of achievement and empathy in the way he treats the participants. He has a special ability to look into the ordinary and find something special and the humility to be awed by it. He is simultaneously. The Amitabh Bachchan, the wax God who we touch and squeal when we find out that it is real and a fellow sympathizer and co-traveller on the journey called life. As a a carrier of life-altering destiny, he underplays his role to perfection,

acknowledging the enormity of that winning means for the participant while revealing the wisdom that knows that it is only money. Under his steerage money is no longer cold acquisitive urgency but warm with unfolding possibility

KBC shows us, close-up and in slow motion, the act of a miracle colliding with a dream. In doing so, it tells us that money can change things for the better, when it finds the right home. By appliying good fortune to good intention. It keeps the miracle alive, well after the movement of impact. As the winners no doubt find out, one can never have enough money, and that relative scale makes everyone a relative pauper. In the final analysis, Kaun Banega Crorepati reveals both the nobility and the eventual poverty of money, no matter if it comes in eight figures.

93. According to the author's opinion a few years before writing this article, which of the following appeared to be in store for KBC?

  i. The show's time was over

  ii. The show was too refined to compete with other reality shows

  iii. Shah Rukh Khan as the show host would take it to new heights

  iv. The show's viciousness was leading it, to its end

(1) i only   (2) i and ii only
(3) ii and iii   (4) i and iv

94. Unlike most reality shows, KBC has gained viewership on television by

(1) Using glamorous participants on the show
(2) Getting participants to say unpleasant things about the truth of life
(3) Making major adjustments to its format time and again
(4) Connecting with the depth and reality of lives of people

95. According to the author, KBC presents the prize money as

(1) a means for indulgence
(2) a jackpot
(3) a reward for relentless work
(4) a reason for changing the real person

96. In what context does the author use the phrase "a relative pauper"?

(1) No one can ever have enough money
(2) Money can change who we are
(3) Money is cold and has materialistic importance
(4) Money can change things for better only if it finds the right home

Passage 4

Babur's head was throbbing with the persistent ache that dogged him during the monsoon. The warm rain had been falling for three days now but the still. heavy air held no promise of relief' The rains would go on for weeks, even months. Lying back against silken bolsters in his bedchamber in the Agra fort, he tried to imagine the chill, thin rains of Ferghana blowing in over the jagged summit of Mount Beshtor and failed. The *punkah* above his head hardly disturbed the air. It was hard even to remember what it was like not to feel hot. There was little pleasure just now even in visiting his garden the sodden flowers, soggy ground and overflowing water channels only depressed him.

Babur got up and tried to concentrate on writing an entry in his diary but the words wouldn't come and he pushed his jewel-studded inkwell impatiently aside. Maybe he would go to the women's apartments. Hewould ask Maha_m to sing. Sonhetimes she acoompanied herself on the round-bellied, slender-necked lute that had once belonged to Esan Dawlat. Maham lacked her grandmother's but the lute still made a sweet sound in her hands.

Or he might play a game of ehess with Humayun. His son had a shrewd, subtle mind — but so, he prided himself, did he and he could usually beat him. It amused him to see Humayun's startled look as he claimed victory with the traditidnal cry shah mat — 'check-mate', 'the king is at a loss'. Later, they would discuss Babur's plans to launch a campaign when the rains eased against the rulers of Bengal. In their steamy jungles in the Ganges delta, they thought they could defy Moghul authority and deny Babur's overlordship.

'Send for my son Humayun and fetch my chessmen,' Babur ordered a servant. Trying to shake off his lethargy he got up and went to a casement projecting over the riverbank to watch the swollen, muddy

waters of the Jumna rushing by. A farmer was leading his bony bullocks along the oozing bank.

Hearing footsteps Babur turned, expecting to see his son, but it was only the white-tunicked servant. 'Majesty, your son begs your forgiveness but he is unwell and cannot leave his chamber.'

What is the matter with him?'

'I do not know, Majesty.'

Humayun was never ill. Perhaps he, too, was suffering from the torpor that came with the monsoon, sapping the energy and spirit of even the most vigorous.

'I will go to him.' Babur wrapped a yellow silk robe around himself and thrust his feet into pointed kidskin slippers. Then he hurried from his apartments to Humayun's on the opposite side of a galleried courtyard, where water was not shootingr as it should, in sparkling arcs from the lotus-shaped marble basins of the fountains but pouring over the inundated rims.

Humayun was lying on his bed, arms thrown back, eyes closed, forehead beaded with sweat, shivering. When he heard his father's voice he opened his eyes but they were bloodshot, the pupils dilated. Babur could hear his heavy wheezing breathing. Every scratchy intake of air seemed an effort which hurt him.

'When did this illness begin?' '

Early this morning, Father.'

'Why wasn't I told?' Babur looked angrily at his son's attendants. 'Send for my hakim immediately!' Then he dipped his own silk handkerchief into some water and wiped l-lumayun's brow. The sweat returned at once — in fact, it was almost running down his face and he seemed to be shivering even more violently now and his teeth had begun to chatter.

'Majesty, the *hakim* is here.'

Abdul-Malik went immediately to Humayun's bedside, laid a hand on his forehead, pulled back his eyelids and felt his pulse. Then, with increasing concern, he pulled open Humayun's robe and, bending, turned his neatly turbaned head to listen to Humayun's heart.

'What is wrong with him?'

Abdul-Malik paused. 'It is hard to say, Majesty. I need to examine him further.' '

Whatever you require you only have to say...'

'I will send for my assistants. If I may be frank, it would be best if you were to leave the chamber, Majesty. I will report to you when l have examined the prince thoroughly - but it looks serious, perhaps even grave. His pulse and heartbeat are weak and rapid.' Without waiting for Babur's reply, Abdul-Malik turned back to his patient. Babur hesitated and, after a glance at his son's waxen trembling face, the room. As attendants closed the doors behind him he found that he, tob, was trembling.

A chill closed round his heart. So many times he had feared for Humayun. At Panipat he could have fallen beneath the feet of one of Sultan Ibrahim's war elephants. At Khanua he might have been felled by the slash of a Rajput sword. But he had never thought that Humayun — so healthy and strong — might succumb to sickness. How could he face life without his beloved eldest son? Hindustan and all its riches would be worthless if Humayun died. He would never have come to this sweltering, festering land with its endless hot rains and whining, bloodsucking mosquitoes if he had known this would be the price.

97. Babur was feeling depressed because...

   (1) the rulers of Bengal were defying Moghul authority
   (2) he could not usually beat Humayun at chess
   (3) he did not like the warm rains and the heaviness of monsoon air
   (4) Maham could not play the lute as well as her grandmother.

98. Which among the following things did Babur not consider doing to relieve himself of depression?

   (1) Go to the women's apartments
   (2) Visit his garden
   (3) Play a game of chess with Humayun
   (4) Listen to Maham sing

99. What was it that Babur currently feared for Humayun?

   (1) Humayun could fall beneath the feet of war elephants

(2) Humayun could be felled by the slash of a sword

(3) Humayun may not be treated properly by the Hakim

(4) Humayun might succumb to sickness

100. According to this passage, which of the following has not been used to describe Humayun?

(1) Shrewd and subtle minded

(2) Healthy and strong bodied

(3) Neatly turbaned head

(4) Fathcr's beloved

Section IV

101. What was the picture shown on the first stamp of independent India?

    (1) The new Indian flag
    (2) Ashoka Lion Capital
    (3) A portrait of Mahatma Gandhi
    (4) A Doughlas DC-4 aircraft

102. Which of the following venues has hosted the Summer Olympics Games the maximum number of times?

    (1) Athens   (2) Paris
    (3) London   (4) Los Angeles

103. What is a good estimate for the length of the coastline of the mainland India?

    (1) 6000 kms.   (2) 7500 kms.
    (3) 9000 kms.   (4) 11,000 kms.

104. Which treaty led to creation of the single European Currency "Euro"?

    (1) Maastricht Treaty
    (2) Vienna Monetary Treaty
    (3) Plaza Accord
    (4) Bretton Woods Agreement

105. In ecology, what name is given to the measure of diversity that is often used to quantify the biodiversity of a habitat by taking into account the number of species present, as well as the abundance of each species?

    (1) Simpson Index
    (2) Herfindahl – Hirschman Index
    (3) Flintstone Index
    (4) Bio-volatility Index

106. Match the Memoir/Autobiography in Column 1 with the person on whom it is based in Column 2:

	Column 1		Column 2
1	Open	i	Hillary Rodham Clinton
2	Living History	ii	Lance Armstrong
3	The Elephant to the Hollywood	iii	Andre Agassi
4	Every Second Counts	iv	Micheal Caine

    (1) 1 – iv, 2 – i, 3 – iii, 4 - ii
    (2) 1 – i, 2 – iv, 3 – ii, 4 - iii
    (3) 1 – iii, 2 – i, 3 – iv, 4 - ii
    (4) 1 – iii, 2 – ii, 3 – iv, 4 - i

107. Which of the following is NOT TRUE about the Millennium Development Goals (MDGs) of the United Nations (UN)?

1. There are 8 MDGs that 193 UN Members states have agreed to achieve
2. The year set for achieving the MDGs is 2020
3. Ensuring environmental sustainability is not one of the MDGs
4. Eradication of extreme poverty and hunger is one of the prime MDGs

    (1) 1 & 2   (2) 2 & 3
    (3) Only 3   (4) Only 4

108. Match the Country in Column 1 with its Capital city in Column 2 and its Currency in Column 3

	Column 1		Column 2		Column 3
1	Hungary	a	Tehran	i	Dirham
2	Iran	b	Rabat	Ii	Rial
3	Morocco	c	Bucharest	Iii	Leu
4	Romania	d	Budapest	iv	Forint

    (1) 1 – d – iv, 2 – a – i, 3 – b – ii, 4 – c- iii
    (2) 1 – d- iv, 2 – a- ii, 3 – b – i, 4 – c – iii
    (3) 1 – b – i, 2 – a- iv, 3 – d –ii, 4 – c - iii
    (4) 1 – b – i, 2 – a – ii, 3 – d – iii, 4 – c- iv

109. Who is the Indian to be named as one of the six winners of the prestigious Magsaysay Award for 2012?

    (1) Medha Pathkar
    (2) Jeet Thayil
    (3) Kunlandei Francis
    (4) Avind Kejiriwal

110. Match the name of the automobile company in Column 1 with the brand of cars owned ny them in Column 2

	Column 1		Column 2
1.	BMW	i.	Bentley
2.	Fiat	ii.	Cadilla
3.	General Motors	iii.	Chrysler
4	Volkswagen	iv.	Mini

(1) 1 – iv, 2 – iii, 3 – ii, 4 - i
(2) 1 – iii, 2 – iv, 3 – i, 4 - ii
(3) 1 – i, 2 – ii, 3 –iii, 4 - iv
(4) 1 – ii, 2 – I, 3 – iv, 4 – iii

111. Who, among the following, has not been a Vice President of India before becoming the President of India?

(1) S. Radhakrishan
(2) R. Venkatraman
(3) Shankar Dayal Sharma
(4) Giani Zail Singh

112. GAAR has been in news recently. What does GAAR stands for

(1) Global Accounting Alliance Regime
(2) General Anti Avoidance Rules
(3) Government Affairs Assessment Rule
(4) Generally Accepted Accounting Rules

113. Match the description given in Column 1 with the name of flim in Column 2

	Column 1		Column 2
1	First Hindi Film	a.	Mother India
2	First Hindi Color Film	b	Alam Ara
3	First Hindi Film nominated for Oscars	c	Kisan Kanya
4	First Hindi film with sound	d	Raja Harischandra

(1) 1 – d, 2 – c, 3 – a, 4 -b
(2) 1 – b, 2 – a, 3 – d, 4 - c
(3) 1 – b, 2 – d, 3 – a, 4 - c
(4) 1 – d, 2 – a, 3 – c, 4- b

114. Which year is known as the year of the great divide in the demographic history

(1) 1857   (2) 1947
(3) 1921   (4) 1951

115. Match the position in Column 1 with the person who holds it (as on 31st August 2012) in Column 2:

	Column 1		Column 2
1	Chief Information Commissioner of India	i	V.S.Sampath
2	Central Vigilance Commissioner of India	ii	S.H.Kapadia
3	Chief Election Commissioner of India	iii	Satyananda Mishra
4	Chief Justice of India	iv	Pradeep Kumar

(1) 1 –ii, 2 – iii, 3 – i, 4 - iv
(2) 1 –iii, 2 – i, 3 – ii, 4 - iv
(3) 1 – iii, 2 – iv, 3 – i, 4- ii
(4) 1 –i, 2 – iii , 3 – iv, 4 - ii

116. The 'God Particle' is the name given to

(1) The Meson Particle
(2) The Higgs Boson Particle
(3) The Proton Particle
(4) None of the above

117. Which among the following cities hosted the 4th BRICS Summit in 2012?

(1) Brasilina, Brazil   (2) Sanya, China
(3) New Delhi, India   (4) None of the above

118. When it is 11:15 as per Greenwich Mean Time, what will be the time in Delhi

(1) 04:45 hours   (2) 05:45 hours
(3) 17:45 hours   (4) 16:45 hours

119. Mullaperiyar Dam is a matter of controversy between which of the following states?

(1) Karnataka – Tamil Nadu
(2) Kerala – Tamil Nadu
(3) Kerala - Karnataka
(4) Karnataka – Andhra Pradesh

120. Match the celebration day in Column 1 with the date in Column 2

	Column 1		Column 2
1	World AIDS day	i	April 22
2	UN day	ii	October 24
3	Earth day	iii	March 8
4	International Women's Day	iv	December 1

(1) 1 – ii, 2 – iv, 3 – iii, 4 - i
(2) 1 – iii, 2 – ii, 3 – iv, 4 - i
(3) 1 – i, 2 – iii, 3 – iv, 4 - ii
(4) 1 – iv, 2 –ii, 3 – i, 4 - iii

121. Which country has won the Gold Medal for Men's Football in 2012 Olympic Games?

(1) Brazil   (2) Spain
(3) Germany   (4) Mexico

122. What is the name given to the civil reformist movement for eradication of ragging in India?

(1) Aman   (2) Mitra
(3) Sahyog   (4) Aadhar

123. Which of the following teams have been in at least one of the ten final matches of ICC Cricket World Cup played from 1975 through 2011, but have never been a winner

(1) England   (2) South Africa
(3) New Zealand   (4) Zimbabwe

124. In a painting what is the vanishing point?

(1) The point beyond which things are too small to be seen
(2) The point where sky meets the ground
(3) The point on the horizon where a parallel lines appear to meet
(4) The point where an object disappears behind another

125. Match the Leader's name in Column 1 to the Party headed by them in Column 2:

	Column 1		Column 2
1	Hosni Mubarak	i	National League for Democracy
2	Aung San Sui Kyi	ii	Socialist Party
3	Francois Hollande	iii	National Democratic Party

(1) 1 – iii, 2 – ii, 3 –i   (2) 1 – ii, 2 – iii, 3 - i
(3) 1 – iii, 2 – i, 3 – ii   (4) 1 – ii, 2 – i, 3 – iii

126. According to Greek Mythology, what is the name of the beautiful youth who was loved by Echo; and in punishment for not returning her love, was made to fall in love with his image reflected in a pool; and finally unable to possess the image, is believed to have pined away and turned into a flower?

(1) Midas   (2) Narcissus
(3) Hercules   (4) Adonis

127. Of which of the following trade groupings is Myanmar a member

(1) SAARC   (2) ASEAN
(3) NAFTA   (4) MERCOSUR

128. Arrange the following Indian rivers from North to South

1. Narmada
2. Kaveri
3. Jhelum
4. Godavari

(1) 3 – 1 – 2 – 4   (2) 1 – 4 – 3 - 2
(3) 1 – 3 – 4 – 2   (4) 3 – 1 - 4 - 2

Answer Key

Section I (Part I) Q.	Ans.		Section I (Part 2) Q.	Ans.		Section II Q.	Ans.		Section III (Part 1) Q.	Ans.		Section III (Part 2) Q.	Ans.		Section IV Q.	Ans.
1	**1**		21	**3**		40	**3**		65	**4**		85	**3**		101	**1**
2	**3**		22	**1**		41	**3**		66	**4**		86	**1**		102	**3**
3	**3**		23	**1**		42	**2**		67	**1**		87	**3**		103	**1**
4	**4**		24	**1**		43	**3**		68	**3**		88	**1**		104	**1**
5	**3**		25	**1**		44	**2**		69	**3**		89	**3**		105	**1**
6	**4**		26	**3**		45	**3**		70	**2**		90	**3**		106	**3**
7	**3**		27	**2**		46	**2**		71	**2**		91	**3**		107	**2**
8	**2**		28	**1**		47	**3**		72	**4**		92	**4**		108	**2**
9	**3**		29	**2**		48	**1**		73	**4**		93	**2**		109	**3**
10	**4**		30	**4**		49	**3**		74	**1**		94	**4**		110	**1**
11	**4**		31	**4**		50	**3**		75	**4**		95	**3**		111	**4**
12	**1**		32	**1**		51	**3**		76	**2**		96	**1**		112	**2**
13	**3**		33	**1**		52	**3**		77	**4**		97	**3**		113	**1**
14	**4**		34	**4**		53	**1**		78	**1**		98	**2**		114	**3**
15	**2**		35	**3**		54	**1**		79	**1**		99	**4**		115	**3**
16	**3**		36	**2**		55	**3**		80	**3**		100	**3**		116	**2**
17	**3**		37	**3**		56	**1**		81	**1**					117	**3**
18	**1**		38	**1**		57	**1**		82	**2**					118	**4**
19	**1**		39	**2**		58	**3**		83	**4**					119	**2**
20	**3**					59	**3**		84	**2**					120	**4**
						60	**4**								121	**4**
						61	**4**								122	**1**
						62	**2**								123	**1**
						63	**2**								124	**3**
						64	4								125	**3**
															126	**2**
															127	**2**
															128	**4**

1. From the word 'HEIRARCHICAL, the final word formed after interchanging the first and second, third and fourth, fifth and sixth letters and so on is EHRIRAHCCILA.
From the left, R is at positions 3 and 5.
From the left, C is at positions 8 and 9.
Hence, **option 1.**

2. This series contains three series in itself.

Term	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}
	−1	0	1	0	2	4	1	6	9	2	12	16

Series 1 (T_1, T_4, T_7, T_{10}): −1, 0, 1, 2 (AP with a common difference of +1)
Series 2 (T_2, T_5, T_8, T_{11}): 0, 2, 6, 12 (Differences between two terms increase by 2)
Series 3 (T_3, T_6, T_9, T_{12}): 1, 4, 9, 16 (Squares of consecutive numbers)
The next three numbers will thus be 3, 20 and 25.
Hence, **option 3.**

3. From the first two statements, we can infer that '*onot*' means 'oak'. Note that '*onot*' is in the second half of the word in the artificial language but 'oak' is the first word in the meaning.
From the second and third statement, we infer that '*bly*' means 'leaf', so '*crin*' will mean 'maple'. Note that '*crin*' is in the second half of the word.
We need to find those words from the artificial language that mean 'maple syrup'.
Observe that '*crin*' means 'maple'.
Based on the pattern, since maple is the first word in 'maple syrup', '*crin*' will be the second half of the coded word. That is true only for option 3.
Hence, **option 3.**

4. From the information we can infer that Bhanu is the eldest, since Bhanu is elder than Gita, who in turn is elder than Mita. So Mita is the youngest.
Hence, **option 4.**

5. The people arranged in ascending order of heights are: Diya, Tiya, Priya, Riya, Siya. Since there is no option which matches this sequence in ascending order and in the absence of 'None of these' as an option, option 3 is marked as the answer as it is the only sequence that has a valid order of heights.
Hence, **option 3.**

6. Statements I and II can be represented as venn diagrams in the following ways:
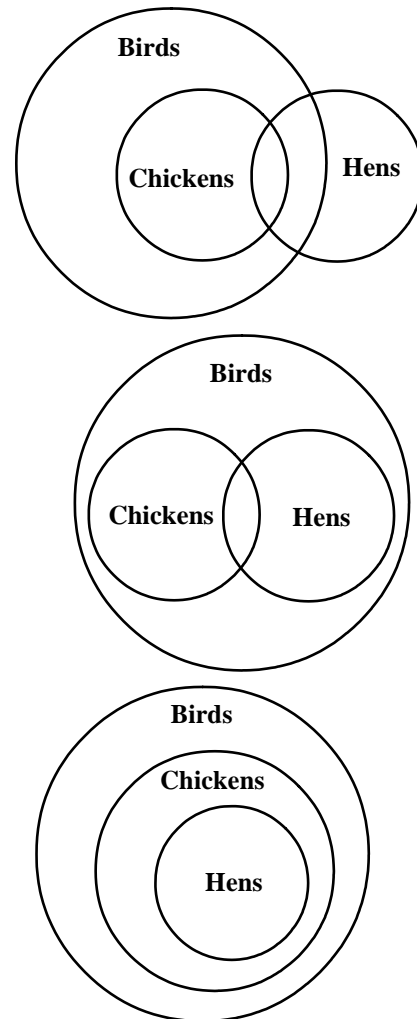
As 'Female birds lay eggs', so 'All birds lay eggs' is incorrect.

Conclusion 'Hens are Birds' may or may not be true as can be seen from the Venn diagrams.

Conclusion 'Some chickens are not hens' is also not definitely true as can be seen from the third Venn diagram.

Hence, **option 4.**

7. Since all storybooks have pictures and some storybooks have words, so some storybooks definitely have both words and pictures.
The other two conclusions cannot be derived from the statements.
Hence, **option 3.**

8. Considering the positions of the letters in the alphabet,
I + 3 = L, Q – 3 = N and S + 3 = V
So J + 3 = M, R – 3 = O and M + 3 = P.
Hence the correct analogy is JRM : MOP
Hence, **option 2.**

9. L, J and K are appearing in this show. Since J is working in this episode so M will also be there. But since K is present in this show, N cannot be there. So M must appear and O may appear. We can eliminate options 1, 2 and 4.
Hence, **option 3.**

10. In this show N is working so K will not be working. So we can eliminate options 1, 2 and 3.
Hence, **option 4.**

11. The moderator is in seat 3 and Gaj, the attorney, is in seat 4. So, as the moderator has the writer and attorney on his sides, the writer is in seat 3.
The attorney is not next to the explorer. So the explorer is in seat 1 and hence the pilot is in seat 5.
Thus we have,

Seat 1	Seat 2	Seat 3	Seat 4	Seat 5
Explorer	Writer	Moderator	Attorney	Pilot
			Gaj	Lalit

Hema is not the moderator and she sits between Kumar and Jaya. We can see from the table that Hema is the writer. The moderator is not Jaya so the moderator is Kumar.
We thus have:

Seat 1	Seat 2	Seat 3	Seat 4	Seat 5
Explorer	Writer	Moderator	Attorney	Pilot
Jaya	Hema	Kumar	Gaj	Lalit

From the above table, Kumar is the moderator.
Hence, **option 4.**

12. According to the table given in the answer to the first question of the set, Jaya sits on Seat 1.
Hence, **option 1.**

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13. The output has the numbers arranged in the order:
smallest, largest, second smallest, second largest, third smallest, third largest and so on.
In the first step, the smallest number is moved to position 1 and the other numbers retain their relative positions.
In the second step, the largest number is moved to position 2 and the other numbers retain their positions.
This continues till the desired output is obtained.
The steps for the given input are:

INPUT	64	326	187	87	118	432	219	348
Step 1	64	432	326	187	87	118	219	348
Step 2	64	432	87	326	187	118	219	348
Step 3	64	432	87	348	326	187	118	219
Step 4	64	432	87	348	118	326	187	219

Hence, **option 3.**

14.

INPUT	319	318	746	123	15	320	78	426
Step 1	15	319	318	746	123	320	78	426
Step 2	15	746	319	318	123	320	78	426
Step 3	15	746	78	319	318	123	320	426
Step 4	15	746	78	426	319	318	123	320
Step 5	15	746	78	426	123	319	318	320
Step 6	15	746	78	426	123	320	319	318
Step 7	15	746	78	426	123	320	318	319

∴ Seven steps are needed to get the final output.
Hence, **option 4.**

15. F ≠ S $ B * V

F ≠ S implies S is standing 2 kms to the right of F.
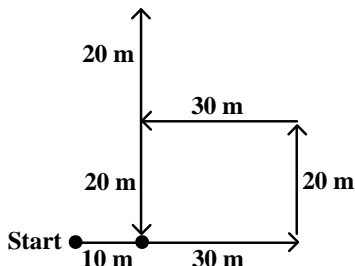
S $ B implies B is standing 2 kms above S.

B * V implies V is standing 2 kms to the left of B.

So F is standing to the south of V.

Hence, **option 2.**

16. The path that Ritvik followed is as follows:

He is thus 10 m away from his house.

Hence, **option 3.**

17. The position numbers of the letters in the alphabet are as follows:

H(8)	C(3)	?
B(2)	F(6)	E(5)
P(16)	R(18)	T(20)

We can see that in each column the number in the third row is the product of the numbers in the first and second rows.

Thus the missing number is 20/5 = 4

The fourth letter of the alphabet is D.

Hence, **option 3.**

18. The final arrangement after all the exchanges will be as follows:

Monday	Tuesday	Wednesday	Thursday
Raj	Jai	Kajal	Farid

∴ Jai worked on Tuesday.

Hence, **option 1.**

19. Consider option 1 – 2,5,7,9.

2	5	7	9
UCE	EXP	AND	RED

If we join 2 and 9, we get REDUCE and if join 5 and 7, we get EXPAND. Reduce and Expand are antonyms.

Hence, **option 1.**

20. At 3:10, the hour hand is pointing south. So according to this position, the 9 hour mark is in the North and the 12 hour mark is in the east. The minute hand will point east when it points to the 12 hour mark, which will be after 50 minutes.

Hence, **option 3.**

21. The following table can be constructed on the basis of the data given:

Year	Exports	Imports	Difference
2002	110	275	165
2003	150	250	100
2004	150	225	75
2005	200	225	25
2006	175	270	95
2007	200	200	0
2008	275	175	−100
2009	200	175	−25
2010	260	200	−60
2011	250	175	−75
Total	1970	2170	−200

Total Exports is smaller than total imports by:

$$\frac{2170 - 1970}{2170} \times 100 = 9.21\% \approx 9\%$$

Hence, **option 3.**

22. According to the table given in the answer to the first question of the set, the lowest absolute difference is in year 2007 and is equal to 0.

The second and third absolute lowest differences are in the years 2005 and 2009 and are equal to 25.

The fourth lowest absolute difference is in the year 2010 and is equal to 60.

Hence, **option 1.**

Note: This question can be answered by simple observation of the graph as well.

23. From the table given in the solution to the first question of the set:

Increase in exports in 2003 $= \left(\frac{40}{110}\right) \times 100 = 36.36\%$

Increase in exports in 2005 $= \left(\frac{50}{150}\right) \times 100 = 33.33\%$

Increase in exports in 2007 $= \left(\frac{25}{175}\right) \times 100 = 14.28\%$

Increase in exports in 2008 $= \left(\frac{75}{200}\right) \times 100 = 37.50\%$

Increase in exports in 2010 $= \left(\frac{60}{200}\right) \times 100 = 30.00\%$

So the fifth highest percentage increase will be in the year 2007.

Hence, **option 1.**

24. There is an increase in imports in only two years.

Increase in imports in 2006 $= \left(\frac{45}{225}\right) \times 100 = 22.22\%$

Increase in imports in 2010 $= \left(\frac{25}{175}\right) \times 100 = 14.28\%$

So the second highest percentage increase will be in the year 2010.
Hence, **option 1.**

25. Referring to the solutions to the previous questions of the set, the maximum annual percentage increase in exports is in the year 2008 i.e. 37.5%
The minimum annual percentage decrease in imports is in the year 2003 i.e. (25/275) × 100 = 9.09%
∴ The difference ≈ 28 percentage points.
Hence, **option 1.**

26.

Year	Aluminium	Coal	Copper	Gold	Iron Ore	Total
2005	69	91	71	15	100	346
2006	75	88	75	18	120	376
2007	81	97	79	21	102	380
2008	98	107	88	25	131	449
2009	93	110	92	24	143	462
2010	99	116	97	20	154	486
2011	105	122	103	25	163	518
Total	620	731	605	148	913	

Growth rate in production $= \left(\dfrac{\text{Difference in production in 2011 and 2005}}{\text{Production in 2005}}\right) \times 100$

Aluminium	$\left(\dfrac{3600}{69}\right) > 50\%$
Coal	$\dfrac{3100}{91} < 50\%$
Copper	$\dfrac{3200}{71} < 50\%$
Gold	$\dfrac{1000}{15} = \dfrac{200}{3} = 66.66\%$
Iron Ore	$\dfrac{6300}{100} = 63\%$

∴ The maximum growth rate was witnessed by gold.
Hence, **option 3.**

27. From the table given in the solution to the first question of the set, the year 2008 has witnessed the highest absolute increase of (449 – 380) = 69 million tonnes in total production of minerals and metals.
Hence, **option 2.**

28. According to the table given in the solution to the 1st question of the set:

Iron ore production in 2008 grows by $\left(\frac{29}{102}\right) \times 100$

≈ 29%

Gold production in 2011 grows by $\left(\frac{5}{20}\right) \times 100 = 25\%$

Aluminium production in 2008 grows by $\left(\frac{17}{81}\right) \times 100$

< 25 %

Gold production in 2006 grows by $\left(\frac{3}{15}\right) \times 100 = 20\%$

Hence, **option 1.**

29. From the table given in the solution to the first question of the set:
Production of Aluminium in 2006 = 75 million tonnes.
Production of Aluminium in 2011 = 105 million tonnes

∴ Growth rate $= \left(\frac{30}{75}\right) \times 100 = 40\%$

Average annual growth $= \frac{40}{5} = 8\%$

If this rate continues, the production of aluminium in

2015 will be

$$105 + \frac{105 \times 4 \times 8}{100} = 138.6 \text{ million tonnes}$$

The closest option is 140 million tonnes.
Hence, **option 2.**

Note: The question does not specify whether simple or compounded average growth is to be considered. If we consider a compounded growth, the annual rate of growth would be

$$\left(\left(\frac{105}{75}\right)^{\frac{1}{5}} - 1 \right) \times 100 = 106, \text{which is } 6\%$$

The production in 2015 would then be $105 \times (1.06)^4$ = 132.56, which is not available in the options.

30. From to the table given in the answer to the first question of the set:
Proportion of copper production in each year:

2010	97/486 < 1/5
2008	88/449 < 1/5
2009	92/462 < 1/5
2007	79/380 > 1/5

Hence we see that the copper production as a proportion of the total mineral and metal production is maximum in the year 2007.
Hence, **option 4.**

31. By observation we can see that Aluminium, Coal and Copper have grown about 30% from 2006 to 2010, whereas the growth in gold is much less than 30%.
Hence, **option 4.**

32. Even though the question asks for CAGR, we only need to compare percentage growth since the time period is the same for all regions.

Eastern Europe:

$$\frac{227650 - 152764}{152764} = \frac{74886}{152764} \approx 50\%$$

Central & South America:

$$\frac{54728 - 42319}{42319} = \frac{12409}{42319} < 50\%$$

West Asia:

$$\frac{235317 - 171661}{171661} = \frac{63656}{171661} < 50\%$$

South East Asia:

$$\frac{409043 - 303475}{303475} = \frac{105568}{303475} < 50\%$$

Thus Eastern Europe has the highest CAGR.
Hence, **option 1.**

33. A CAGR of 10% for 3 years = a growth which is $(1.1)^3$ times, or 33.1%
∴ The difference in the number of tourists in 2010 and in 2007 has to be more than one third of the number of tourists in 2007.
By observation, we can see that this is true only for Eastern Europe, West Asia and South East Asia.
Hence, **option 1.**

34. For Africa the highest annual growth rate is recorded in the year 2010. It is

$$\frac{204525 - 164474}{164474} \times 100 = 24.35\%$$

For Eastern Europe the highest annual growth rate is recorded in the year 2010. It is

$$\frac{227650 - 183475}{183475} \times 100 = 24.07\%$$

For West Asia the highest annual growth rate is recorded in the year 2008. It is

$$\frac{210542 - 171661}{171661} \times 100 = 22.64\%$$

For East Asia the highest annual growth rate is recorded in the year 2010. It is

$$\frac{411947 - 322797}{322797} \times 100 = 27.61\%$$

Hence, highest annual growth is recorded for East Asia.
Hence, **option 4.**

35.

			2006	2007	2008	2009	2010	2011
LCD	**Sales**		400	500	600	660	700	875
	Production		875	950	1000	950	950	1025
	Exports		475	450	400	290	250	150
LED	**Sales**		500	450	850	800	900	975
	Production		425	475	500	725	700	825
	Exports		−75	25	−350	−75	−200	−150
Plasma	**Sales**		825	750	750	650	500	525
	Production		850	750	750	575	575	550
	Exports		25	0	0	−75	75	25
External Trade = |Sales – Production|			575	475	750	440	525	325
Net Exports = Exports – Imports			425	475	50	140	125	25

External trade = |Sales – Production|
From the table above, the highest external trade is done in year 2008.
Hence, **option 3.**

36. From the table given in the solution to the first question of the set, net exports are the highest in the year 2007.
Hence, **option 2.**

37. According to the table given in the solution to the first question of the set:
Statement 1 is always true.
Statement 2 is false as the net exports of all the categories of TVs for all the years is 1240.
Statement 3 is also true as the production of plasma TV's fell short of sales only in the year 2009.
Hence, **option 3.**

38. Sales of Figo cars in 2010 = $\left(\frac{9}{100}\right) \times 80000 = 7200$

Sales of Figo cars in 2011 = $\left(\frac{44}{360}\right) \times \left(\frac{125}{100}\right) \times 80000$

$= 12222$

Hence the increase is the sales is 12222 – 7200 = 5022
The closest option is 4860.
Hence, **option 1.**

39. We need to find the number of models for which the sales in 2011 are 25% more than the sales in 2010.
For ease of calculations let us assume that the total sales in 2011 are 360.

Then the sales in 2010 are $\frac{360}{1.25} = 288$

Model	Sales in 2010	Sales in 2011	Percentage increase
Figo	2.88 × 9 = 25.92	44	> 25%
Alto	2.88 × 32 = 92.16	111	< 25%
Swift	2.88 × 24 = 69.12	67	< 25%
i10	2.88 × 21 = 60.48	82	> 25%
Honda City	2.88 × 14 = 40.32	56	> 25%

Hence the sales grew by more than 25% only for three models - Figo, i10 and Honda City.
Hence, **option 2.**

40. We need $0.0010101 \times 10^k > 1000$
∴ $1010.1 \times 10^{-6} \times 10^k > 1000$
∴ $1010.1 \times 10^{-6+k} > 1000$
∵ $1010.1 > 1000$, $10^{-6+k} = 1$
∴ $k - 6 = 0$
∴ $k = 6$
Hence, **option 3.**

41. There are at least three packets of chips in the cupboard. There are 10 packets in all.
∴ (Number of packets of chips, Number of packets of biscuits) ≡ (3, 7) or (4, 6) or (5, 5) or (6, 4) or (7, 3) or (8, 2) or (9, 1) or (10, 0)
The number of ways in which three packets of chips can be drawn = $^3C_3 + {}^4C_3 + {}^5C_3 + {}^6C_3 + {}^7C_3 + {}^8C_3 + {}^9C_3 + {}^{10}C_3 = 330$
The number of ways in which three packets of chips can be drawn when there are 9 packets of chips = $^9C_3 = 84$
∴ Required probability = 84/330 = 14/55
Hence, **option 3.**

42. $7^{x-1} + 11^{x-1} = 170$
WE can see that the RHS is a multiple of 10.
11^{x-1} has 1 in its units place.

∴ 7^{x-1} should have 9 in its units place.

The lowest value for which this is true is $x = 3$

$7^2 + 11^2 = 170$

We can see that the for any other value of x, which is greater than 3,

$7^{x-1} + 11^{x-1} > 170$

Hence, **option 2.**

43. In the given time period, there would be an increase of 18% from 2008-2009, followed by a compounded increase of 18% from 2009-2010, followed by a compounded decrease of 12% from 2010-2011. Finally, there is a compounded increase of 18%.

Hence, it is clear that effectively the production has increased. Hence, options 2 and 4 are ruled out.

Also, even if the increase is not compounded, there would have been a net increase of $18 + 18 - 12 + 18 = 42\%$.

Since the increase is compounded, the net effect would be more than 42%.

The exact value in 2012, if the base value is x in 2008 is $x \times 1.18 \times 1.18 \times 0.88 \times 1.18 = 1.445x$

This is an increase of approximately 45%.

Hence, **option 3.**

44. $\log(3^x - 2) - \log 3 = \log(3^x + 4) - \log(3^x - 2)$

Let $3^x = t$

∴ $\log\left\{\dfrac{t-2}{3}\right\} = \log\left\{\dfrac{t+4}{t-2}\right\}$

∴ $\dfrac{t-2}{3} = \dfrac{t+4}{t-2}$

∴ $t^2 + 4 - 4t = 3t + 12$

∴ $t^2 - 7t - 8 = 0$

∴ $(3^x - 8)(3^x + 1) = 0$

Since 3^x cannot be negative,

∴ $3^x = 8$

∴ $x = \log_3 8$

Hence, **option 2.**

45. As there are 5 questions in each section we have three different cases to be considered.

Case 1:

3 questions from section 1 and 3 questions from section 2

Number of ways = $^5C_3 \times {}^5C_3 = 100$

Case 2:

4 questions from section 1 and 2 questions from section 2

Number of ways = $^5C_4 \times {}^5C_2 = 50$

Case 3:

2 questions from section 1 and 4 questions from section 2

Number of ways = $^5C_2 \times {}^5C_4 = 50$

∴ Total number of ways = $100 + 50 + 50 = 200$

Hence, **option 3.**

46. The paper of each student can go to any of the nine professors.

As there are 5 students, there are $9 \times 9 \times 9 \times 9 \times 9 = 9^5$ ways in which the papers can be checked by the professors.

Now, number of ways of selecting two professors = $^9C_2$

The five papers can be checked by the two professors in 2^5 ways, but this will contain two ways in which the papers are checked by just one professor.

∴ The number of ways in which 5 answer sheets are checked by exactly two professors = $^9C_2 \times (2^5 - 2)$

Number of ways in which each paper can be checked by a professor = 2

∴ Number of ways such that five papers can be checked by those 2 professors = $^9C_2 \times (2^5 - 2)$

∴ Probability $= \dfrac{^9C_2 \times (2^5 - 2)}{9^5} = \dfrac{40}{2187}$

Hence, **option 2.**

47. Let the amounts invested in fixed deposits X and Y be x and y respectively.

∴ $x + y = 25000$ ... (i)

As the interest at the end of two years is 3518,

$(1.06)^2 x + (1.08)^2 y - 25000 = 3518$

∴ $1.1236x + 1.1664y = 28518$ ... (ii)

Solving (i) and (ii),

$x = 15000$

Hence, **option 3.**

48. Probability that the LPG will last ≥ 60 days = 0.8

∴ Probability that the LPG will last < 60 days = 1 - 0.8 = 0.2

Probability that the LPG will last ≤ 90 days = 0.6

∴ The probability that the LPG will last ≥ 60 days and ≤ 90 days will be = (Probability that a LPG will last ≤ 90 days) – (Probability that a LPG will last < 60 days)

= $0.6 - 0.2 = 0.4$

Hence, **option 1.**

49. Funds allocated for Research & Development in 2011 = Rs. 4.5×10^7

Funds allocated for Research & Development in 2012 = Rs. 6×10^7

Difference in the funds = Rs. 1.5×10^7

Difference in the funds received by each Department

$= \dfrac{1.5 \times 10^7}{2 \times 10^2} = 7.5 \times 10^4$

Hence, **option 3.**

50. Area of a circular field = πr^2

Area of tank = $130 \times 110 = 14300$ m^2

∴ $\pi r^2 - 14300 = 20350$

$\therefore \pi r^2 = 34650$

$r^2 = 1575 \times 7 = 225 \times 49$
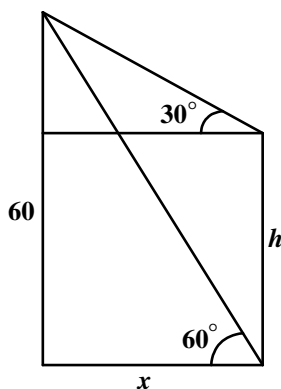
$r = 15 \times 7 = 105$ m

Hence, **option 3.**

51. Let the height of the cylindrical vessel be $2h$.

$\therefore$ Radius of the cylindrical vessel is $3h$.

Also the radius of the hemispherical bowl = $3h$

$\therefore$ Volume of the hemispherical bowl = $\left(\dfrac{2}{3}\right) \times \pi \times (3h)^3$

$= 18\pi h^3$

Volume of the cylindrical vessel = $\pi \times (3h)^2 \times (2h)$

$= 18\pi h^3$

Hence the cylindrical vessel will be completely filled when the contents are transferred.

Hence, **option 3.**

52.

Let the height of the shorter building be h.

Let the distance between the two buildings be x.

Therefore from the diagram,

$\tan 60 = \dfrac{60}{x}$

$\therefore x = \dfrac{60}{\sqrt{3}} = 20\sqrt{3}$

$\therefore \tan 30 = \dfrac{60 - h}{x}$

$\therefore 60 - h = 20$

$\therefore h = 40$

Hence, **option 3.**

53. Relative speed of the longer train with respect to the

shorter one = $(60 + 48) \times \dfrac{5}{18} = 30$ m/s

Let the length of the longer train be x m.

Now the distance travelled by the longer train to cross the shorter train = length of the longer train + length of the shorter train = $x + x/2 = 3x/2$

The trains cross each other with a speed of $(60 + 48)$ km/h

$(60 + 48)$ km/h = $(60 + 48) \times \dfrac{5}{18} = 30$ m/s

Therefore,

$\dfrac{3x}{2} = 30 \times 15$

$\therefore x = 300$ mts

Let the length of the bridge be L.

Now total distance covered in crossing the bridge

= length of the longer train + length of the bridge

= $300 + L$

$\therefore 300 + L = 60 \times \left(\dfrac{5}{18}\right) \times 51 = 850$

$\therefore L = 550$ mts

Hence, **option 1.**

54. Let one man complete the piece of work in m days and let one woman complete the piece of work in n days.

$\therefore \dfrac{12}{m} = \dfrac{1}{10}$ and $\dfrac{20}{w} = \dfrac{1}{12}$

$\therefore \dfrac{1}{m} = \dfrac{1}{120}$ and $\dfrac{1}{w} = \dfrac{1}{240}$

Let n be the number of days after 9 days that the work takes to get over.

$\therefore 9\left(\dfrac{8}{m} + \dfrac{4}{w}\right) + n\left(\dfrac{8}{m} + \dfrac{4}{w} + \dfrac{10}{w}\right) = 1$

$\therefore 9\left(\dfrac{1}{15} + \dfrac{1}{60}\right) + n\left(\dfrac{1}{15} + \dfrac{1}{60} + \dfrac{1}{24}\right) = 1$

$\therefore \dfrac{3}{4} + \dfrac{15n}{120} = 1$

$\therefore n = 2$

Hence, **option 1.**

55. Let the reduced speed of the train be denoted by S and the number of wagons attached to it be denoted by N.

$\therefore S \propto \sqrt{N}$

$\therefore \dfrac{S_1}{S_2} = \sqrt{\dfrac{N_1}{N_2}}$

The speed reduces from 45 km/hr to 30 km/hr with 9 wagons.

$\therefore$ The reduction in speed = $S_1 = 45 - 30 = 15$ km/hr

Now, let N_2 number of wagons attached when the train halts completely.

Hence, S_2 = reduction in speed at this point = $45 - 0$ = 45 km/hr.

$\therefore \dfrac{15}{45} = \dfrac{\sqrt{9}}{\sqrt{N_2}}$

$\therefore N_2 = 81$ wagons

Hence, when 81 wagons are attached, the train halts completely. For the train to just move, the number of wagons attached should be 1 less than 81 i.e. 80.
Hence, **option 3.**

56. Let the fixed expenses be k.
Let the variable expenses per student be m.

$$\therefore \frac{20m + k}{20} = 400 \quad ...(i)$$

$$\frac{40m + k}{40} = 300 \quad ...(ii)$$

Solving (i) and (ii) simultaneously, we get $m = 200$ and $k = 4000$
There average cost for 80 students will be

$$= \frac{80 \times 200 + 4000}{80} = \text{Rs. } 250$$

Hence, **option 1.**

57.

	Soap	Toothpaste
Cost Price	s	$0.6s$
Number bought	20	12
Profit on each	$0.15s$	20
Number sold	15	8
Number not sold	5	4
Total profit on items sold	$15 \times 0.15s = 2.25s$	160

$\therefore 2.25s + 160 = 385$
$\therefore s = 100$
Cost of unsold items $= 5s + 4 \times 0.6s = 7.4s = 740$, which is a loss.
Total cost $= 20s + 12 \times 0.6s = 27.2s$
$\therefore$ Overall loss $= 740 - 385 = 355$
Hence, **option 1.**

58. Let $x = \sqrt{7 + \sqrt{7 - \sqrt{7 + \sqrt{7 - \cdots}}}}$

$$\therefore \sqrt{7 + \sqrt{7 - x}} = x$$

$$\therefore 7 + \sqrt{7 - x} = x^2$$

Substituting the options, only $x = 3$ satisfies the equation.
Hence, **option 3.**

59. The unit's digit of $(8267)^{153}$ is same as unit digit of 7^{153}. Since cyclicity of 7 is 4 and the remainder obtained when 153 is divided by 4 is 1,
$\therefore$ Unit's digit of $(8267)^{153}$ = unit's digit of 7^{153} = unit's digit of $7^1 = 7$
Similarly,

Unit's digit of $(341)^{72}$ is same as unit's digit of $1^{72} = 1$
Hence the unit's digit of the product $= 7 \times 1 = 7$
Hence, **option 3.**

60. $Z = 31!$
Z is divisible by all numbers less than 32.
$X = 31! + 1$
$X + 1 = 31! + 2$, will be divisible by 2,
$X + 2 = 31! + 3$ will be divisible by 3,
$X + 3 = 31! + 4$ will be divisible by 4 and so on.
Hence none of the numbers will be prime.
Hence, **option 4.**

61. The amount of sugar in the cylinder = 1.5 litres

Now, $1.5 \left\{ 1 - \left(\frac{a}{10} \right)^2 \right\}$ is the amount of sugar

left after a litres has been replaced twice.
Now after replacement, sugar left is 10% of the total solution i.e.10% of 10 litres = 1 litre

$$\therefore 1 = 1.5 \left\{ 1 - \left(\frac{a}{10} \right)^2 \right\}$$

$$\therefore 0.66 = \left\{ 1 - \left(\frac{a}{10} \right)^2 \right\}$$

$$\sqrt{0.66} \approx 0.8$$

$$\therefore 0.8 = 1 - \left(\frac{a}{10} \right)$$

$$\therefore \frac{a}{10} = 0.2$$

$$\therefore a = 2$$

Hence, **option 4.**

62. The number of triangles formed using the 8 points
$= {}^8C_3 = 56$
The number of quadrilaterals formed using the 8 points $= {}^8C_4 = 70$
$\therefore$ The difference $= 14$
Hence, **option 2.**

63. All the three options given satisfy the perimeter criteria. The hypotenuse is the greatest side.
$\therefore$ Option 1 is eliminated.
Now, $97^2 = 9409$

Option 2:
$97^2 - 72^2 = 4225 = 65^2$

Option 3:
$97^2 - 80^2 = 3009 \neq 57^2$
Hence, **option 2.**

64. $A : B = 3 : 4$, $B : C = 3 : 4$, $C : D = 3 : 4$

$$\therefore A : D = \left(\frac{3}{4} \right)^3 = \frac{27}{64}$$

Let $D = 64$

Then, C = 3/4 × 64 = 48
B = 3/4 × 48 = 36
A = 3/4 × 36 = 27
∴ A : B : C : D = 27 : 36 : 48 : 64

∴ C's share $= \left\{\dfrac{48}{27 + 36 + 48 + 64}\right\} \times 1400 =$ Rs. 384

Hence, **option 4.**

65. Statements I, III and V are interrogative sentences used as examples by the author to explain language devices. They must come together. Statement II with 'examples' follows. Finally, statement IV covers the gist of the examples in I, III and IV and provides for a fitting conclusion. Also, from statement IV, you get the sequence of books, plays and food.
Hence, the correct answer is **option 4.**

66. Statement II introduces the paragraph with ITCs invaluable lessons. III takes this forward by expanding the 'solutions' aspect mentioned in II. V and IV follow. IV follows V as it has the word 'also'. Finally, I with 'all these help' forms a fitting conclusion.
Hence, the correct answer is **option 4.**

67. In B, the adverb 'gradually' has been placed incorrectly before 'thought' instead of 'spread'. In C, 'an orderly process' has been incorrectly attributed to 'thought'. The error found in statement C is also there in statement D.
Hence, the correct answer is **option 1.**

68. In A and D, there is an error is parallelism. "…can be TAKING………as on PUTS…." Both verbs should be in the same form- either infinitive or present participle. In B, there is an error in pronoun. In all places, the pronoun 'one' is used and in the last line the pronoun "' THEY' put into them" is used.
Hence, the correct answer is **option 3.**

69. Indefatigable means persisting tirelessly and inveterate means having a particular habit, activity, or interest that is long-established and unlikely to change. This is given directly in option C.
Hence, the correct answer is **option 3.**

70. Misanthrope is someone who hates human beings in the same way a misogynist hates women. A chauvinist is someone who is highly patriotic. An agnostic is one who believes that it is impossible to know whether there is a God. A witch practices or believes in magic.
Hence, the correct answer is **option 2.**

71. The meanings of the words are as follows:
Arrogate - to attribute or assign to another; ascribe
Arraign - to call or bring before a court to answer to an indictment
Chagrin- marked by disappointment or humiliation

Conscript - to compel into service
Vacillate - to oscillate or fluctuate
Hence, the correct answer is **option 2.**

72. The meanings of the words are as follows:
Ephemeral - lasting a very short time; short-lived
Ethereal - Highly refined; spiritual
Aperitif- a small drink of alcoholic liquor taken to stimulate the appetite before a meal
Candour - the quality of being open and honest; frankness
Chimera - dream, fantasy, delusion
Hence, the correct answer is **option 4.**

73. In sentence A the pronoun 'their' is incorrect. It should be 'his' to complement the subject 'each of the boys'. In B 'his' should be replaced by 'one's'. In C, 'either' should be followed by the singular pronoun 'his'. D is constructed correctly.
Hence, the correct answer is **option 4.**

74. In B, the conditional tense with 'would' in the first part is constructed incorrectly. In C the first part should be 'When you come to see me…' In D, the placement of 'both' is incorrect. It should be placed after 'to'. Here, the 'both' is attributed to 'two letters' or 'two documents'. Statement A is constructed correctly.
Hence, the correct answer is **option 1.**

75. 'Between' is used with two people. Above two, the relationship is conveyed with the word 'among'. B and C are ruled out. 'Since' is used to indicate from then till now; between a particular past time and the present and 'From' is used to indicate source or origin: to come from the Midwest, start from January.
Hence, the correct answer is **option 4.**

76. 'By dint of' means because of something; due to the efforts of something and is best suited for sentence 1. 'By virtue of' means 'because of something; due to something'. 'In consequence of' means by reason of; as the effect of. It is best suited for sentence 3. 'In case of' means 'if there should happen to be.' These phrases are best arranged in option B.
Hence, the correct answer is **option 2.**

77. Metaphor is a figure of speech in which a term or phrase is applied to something to which it is not literally applicable in order to suggest a resemblance. It is an indirect comparison. In statement D, an indirect comparison is made between him and a lion.
Hence, the correct answer is **option 4.**

78. An oxymoron is a figure of speech/an epigrammatic effect, by which contradictory terms are used in conjunction: living death; fiend angelica. This is seen in sentence A with 'kind cruelty'.
Hence, the correct answer is **option 1.**

79. Puerile means 'youthful, juvenile or silly'. The antonym or opposite for this is 'adult'. Servile means being in slavery; oppressed. Ambiguous means unclear.
Hence, the correct answer is **option 1.**

80. Prosaic means 'commonplace or dull'. Its antonym or opposite is 'interesting'. Mundane means ordinary and predisposed means to make (someone) inclined to something in advance.
Hence, the correct answer is **option 3.**

81. The correct spelling is 'exorbitant' and it means 'inordinate, outrageous, extreme or extravagant.'
Hence, the correct answer is **option 1.**

82. The correct spelling is 'acquiescence' and it means 'the act or condition of acquiescing or giving tacit assent; agreement or consent by silence or without objection.'
Hence, the correct answer is **option 2.**

83. Perilous, precarious and hazardous are synonyms meaning 'dangerous'. Copious means 'abundant' and is the odd one out.
Hence, the correct answer is **option 4.**

84. Propitiate, Appease and Conciliate are synonyms meaning ' satisfy/pacify'. Appreciate means 'to value someone or something.'
Hence, the correct answer is **option 2.**

85. The third paragraph of the passage mentions, "Profit is not the explanation, cause or rationale.....but rather the test of their validity."
Hence, the correct answer is **option 3.**

86. The sixth paragraph mentions "It (theory of profit maximisation and profit motive) is largely responsible for the worst mistakes of public policy."
Hence, the correct answer is **option 1.**

87. The seventh paragraph states," There is only one valid definition of business purpose: to create a customer"
Hence, the correct answer is **option 3.**

88. Look at the last paragraph. The passage states, ".....it remained a potential want until the action of business people converted it into effective demand. Only then is there a customer and a market."
Hence, the correct answer is **option 1.**

89. Vapid means 'Offering nothing that is stimulating or challenging.' Lackluster means the same.
Hence, the correct answer is **option 3.**

90. The first few paragraphs talk about the teacher. The fourth paragraph mentions mother in detail. The fifth paragraph mentions 'grandmother' only once - "....silver sugar bowls from my grandmother's ..." The last paragraphs mention classmates.
Hence, the correct answer is **option 3.**

91. The third paragraph mentions that the author's father was not an authority figure and that his mother 'was hardly an alien or distant tyrant.'
Hence, the correct answer is **option 3.**

92. The last paragraph mentions, "... there was rumoured to be a dentist......to send naughty children there."
Hence, the correct answer is **option 4.**

93. The first paragraph mentions, "....time for Kaun Banega Crorepati had come and gone." This supports statement 1. It also mentions," It had no backbiting intrigue.....nothing ever needed to be beeped out on it...." which supports statement 2. The other two statements do not find support in the passage.
Hence, the correct answer is **option 2.**

94. The second paragraph mentions, "...but as an idea that connects with something deep and real in our lives"
Hence, the correct answer is **option 4.**

95. The third paragraph mentions, "...not as a jackpot but as a vardan, a gift from divinity that comes for one's persistent effort, a prize for the penance called ordinary life."
Hence, the correct answer is **option 3.**

96. The last paragraph mentions," As the winners no doubt find out, one can never have enough money..."
Hence, the correct answer is **option 1.**

97. The first paragraph mentions," The warm rains had been falling....no promise for relief." The paragraph ends with "....soggy ground and overflowing water channels only depressed him."
Hence, the correct answer is **option 3.**

98. The second paragraph mentions points A and D. The third paragraph mentions point C. The first paragraph mentions that even the garden could not pull out Babur from his depression. It does not mention Babur's effort to go to the garden.
Hence, the correct answer is **option 2.**

99. The last paragraph states, "But he had never thought that Humayun - so healthy and strong- might succumb to sickness."
Hence, the correct answer is **option 4.**

100. The third paragraph mentions 'shrewd and subtle minded' as adjectives for Humayun. The last paragraph mentions ' healthy and strong' as well as 'beloved'. The passage does mention 'neatly turbaned head' but in the context of Abdul-Malik.
Hence, the correct answer is **option 3.**