

THE PRINCETON REVIEW IIFT SAMPLE PAPER 1

INSTRUCTIONS – Please read these carefully before attempting the test

1. This test is based on pattern of previous years' IIFT papers.
2. There are four sections.
Section 1- Mathematical Aptitude questions(50 questions)
Section 2- Data Interpretation & Data Sufficiency (25 questions)
Section 3-Reading Comprehension and English Usage (50 questions)
Section 4-General Knowledge (50 questions)
3. ***The total time allotted is 2 hours exactly.*** Please note your start time and end time on the answer sheet. Do not take more than 2 hours, or you will get a wrong assessment.
4. Please fill all the details, as asked on top of the answer sheet.
5. Please try to maximize your attempt overall, ***but you need to do well in all sections.***

Marking scheme:

$\frac{3}{4}$ for each correct answer of section 1

$\frac{1}{2}$ for each correct answer of section 1

$\frac{2}{5}$ for each correct answer of section 1

$\frac{2}{5}$ for each correct answer of section 1

6. There is no sectional time limit.
7. Since it is a time constrained test and you have 2 hours, and all questions carry equal marks, please do not get stuck on any question, move fast to try and do easier ones.
8. ***Please do all scratch work on paper only, no extra sheets to be used.*** Put all your answers on the answer sheet.

Relax. You are competing against yourself.

SECTION 1

- The number of pairs of positive integers (a, b) where a and b are prime numbers and $a^2 - 2b^2 = 1$, is
(a) 0 (b) 1 (c) 2 (d) 8
- $\frac{x+1}{(x+2)^2(x+3)}$ is equal to
(a) $\frac{2}{25(x+2)} + \frac{3}{5(x+2)^2} + \frac{2}{25(x+3)}$
(b) $\frac{2}{25(x+2)} + \frac{3}{5(x+2)^2} + \frac{2}{25(x+3)}$
(c) $\frac{2}{25(x+2)} + \frac{3}{5(x+2)^2} + \frac{2}{25(x+3)}$
(d) none of these
- In the game of picking the parcel, 4 players stand at the corners of a square and a parcel is kept at the center of the square. As soon as the signal goes up, a player has to run and pick up the parcel and proceed towards the diagonally opposite corner. The parcel changes hand, and the third player now runs with the parcel and taking a quarter-circular path lands at the spot vacated by the 1st player. He then places the parcel at the center and second player takes a quarter-circular path and passes the parcel to the player on his right returns of his spot. If the distance between opposite corners is 14 m, what is the total distance traveled by the parcel?
(a) 36 m (b) 44m (c) 45m (d) 47m
- Two commandos A and B are the equidistant from the target and the three are in a straight line. Another commando C stands equidistant from A and B such that the distance between him and either A or B is the same as the distance between A and B. What is the ratio of the distance AC and distance between C and the target?
(a) 3 (b) 2 (c) $\frac{\sqrt{3}}{2}$ (d) $\sqrt{3}$
- Rajdhani express leaves Mumbai towards Delhi at 3.10 p. m. and travels uniformly at 120 kmph. August Kranti Express leaves Delhi towards Mumbai at 12.20 p. m. and travels uniformly at 80 kmph. Both trains cross at Baroda at 4.30 p. m. On a particular day, Rajdhani leaves at 3.20 p. m. When will the two trains cross?
(a) 4.32 p. m. (b) 4.36 p. m. 4.28 p. m. (d) 4.40 p. m.

6. When $\frac{3}{4}$ th of a unit's digit is added to the ten's digit of a 2-digit number, the sum of the digits becomes 10. If $\frac{1}{4}$ th of the ten's digit added to the unit digit, then the sum of the digits is 1 less than previous. Find the number
 (a) 94 (b) 84 (c) 48 (d) 88

Direction for questions 7 and 8: Read the data below

The climb from the foot to the top of a hill is 800 m. Amar climbs at 16 m/min and rests for 2 minutes or 20 m in 2 min and rest for 1 minute. Bonny can climb at 10 m/min and rest for 1 minute or 16 m/min and rest for 2 minutes.

7. If Amar has to reach the top in exactly 2 hours, what is the maximum number of tests that he can take?
 (a) 40 (b) 41 (c) 39 (d) 38
8. If both Amar and Bonny climb as fast as they can, then how far would Bonny be from the top when Amar reaches the top?
 (a) 630 m (b) 170 m (c) 640 m (d) 160 m
9. A merchant purchases 25% more goods spending Rs 240 after the price of the goods fall by 20%. What are the old and new prices of the goods?
 (a) 22, 20 (b) 24, 19.2 (c) 10, 8 (d) 30, 24

Directions for 10 – 12: Mr. Doubt fire has a unique way of attempting the question paper having 50 Qs. He starts from question 1 and attempts all questions which are terms of the A. P with a common difference of 3 in the forward direction and 3 in the reverse direction. If he reaches a stage when he cannot attempt any more question he starts in the reverse direction with the first unanswered question. He repeats the same process and when he reaches a stage when he can't process any further, he reverses his direction again starting with the first unanswered question

10. Which is the 20th question he answers?
 (A) 50 (b) 48 (c) 47 (d) 44
11. Which is the last question that he answers if he attempts all the 50 questions?
 (a) 50 (b) 49 (c) 48 (d) 3
12. How many times does he reverse his direction?
 (a) 3 (b) 4 (c) 5 (d) 6
13. A train moving uniformly at s kmph passes a platform p metres long in t seconds. What is the length of the train in metres?
 (a) $\frac{St-p}{60}$ (b) $s/t - p$ (c) $(st-p)/18$ (d) $5st/18 - p$

14. $\frac{2}{3}^{\text{rd}}$ of the balls in a bag are black, the rest are red. If $\frac{5}{9}^{\text{th}}$ of the black balls and $\frac{7}{8}^{\text{th}}$ of the red balls are defective, find the total number of balls in the bag, if the number of non-defective balls is 146.
 (a) 216 (b) 432 (c) 648 (d) 578

Directions for 15-16: Two runners A, B starts simultaneously from the two points where the circle $x^2 + y^2 = 16$ cut the X-axis. The speeds of A, B is in the ratio 1: 2 and they are moving in the opposite directions.

15. If Starts from the point where the circle cuts the -ve x-axis, find the distance covered by A before they meet?
 (a) $\frac{4p}{3}$ (b) $\frac{8p}{3}$ (c) $\frac{16p}{3}$ (d) none of these

16. The coordinates of the point where they meet for the first time is
 (a) $(\frac{\sqrt{3}}{2}, 1)$ (b) $(2, \sqrt{3})$ (c) $(2, 2\sqrt{3})$ (d) none of these

17. There are 10 different fruits and 5 different vegetables. A grocer has to choose 3 fruits and 2 vegetables. In all the possible selections he can make, what is the number of selections in which a particular fruit and a particular vegetable are always there?
 (a) 120 (b) 144 (c) 160 (d) 80

18. Four bells begin to toll together and then at intervals of 6, 7, 8 and 9 seconds. The number of times they will toll together in 2 hours and the intervals at which they will are
 (a) 14 times, 504 sec (b) 15 times, 600 sec
 (c) 13 times, 650 sec (d) 11 times, 720 sec

19. A bucket with a capacity of 5 liters is used to draw water from a cylindrical tank of radius 7 m in which and water is filled upto a height of 2 m. The density of the bucket is 0.5 and the weight 2 kg. What is the level of water in the tank when the bucket is dipped the third time to draw water? (Density = $\frac{\text{Weight}}{\text{Volume}}$)
 (a) 1.8 m (b) 1.9 m (c) 1.96 m (d) 2m

20 – 21: A cube is divided into 4 equal cubes. Each of these cubes is further sub-divided into 4 equal cubes.

20. What is the ratio of the surface area of the smallest cube as a percentage of the original cube?
 (a) 0.625 (b) 0.0625 (c) 0.0156 (d) 0.25

21. The original cube's sides are painted blue, then what is the probability that exactly 2 sides of a small cube is painted blue?
 (a) $\frac{3}{8}$ (b) $\frac{1}{16}$ (c) $\frac{1}{4}$ (d) $\frac{3}{4}$
22. Mr. Akshay stays in a triangular colony. He stays at one vertex, with a bank and a market at the other two vertices. The roads meeting at the market are at 90. Akshay goes to the bank from his home and then to the market totally covering 160 m. He then walks straight back home from the market. If distance from home to bank is 40 m more then what he covered from bank to market, find the distance he walked from market to home.
 (a) 80 m (b) 120 m (c) 100 m (d) 155 m
23. If in the previous question, Akshay's speed from home to bank was 30 m/min and from bank to market was 20 m/ 10 min, find his average speed.
 (a) 2.8 m/10 min (b) 3 m/min
 (c) 3.6 m/ 10 min (d) 4.8 m/min

Directions for 24-25: In a survey it was found that 80 % of viewers watched DD, 60% watched BBC and 75% watched star plus.

24. What is the minimum %age of the respondents watching all the three channels?
 (a) 60% (b) 45% (c) 15% (d) none of these
25. What is the maximum %age of respondents watching DD or BBC but not star plus?
 (a) 25% (b) 40% (c) 65% (d) none of these
26. What is the probability of finding exactly 33 multiples of 3 when 100 consecutive natural nos are selected?
 (a) $\frac{1}{3}$ (b) $\frac{2}{3}$ (c) 1 (d) none of these
27. From the money that Ajay has, he gives as much to Bunti as much as Bunti has with him. Bunti then gives as much money to Chintu as much as Chintu has with him. Finally Chintu gives as much money to Ajay as much as Ajay had before Chintu gave home the money. How much money did each of the three friends Ajay, Bunti, and Chintu have with them initially if between them they have totally Rs 48 and after the transactions each of them have equal amounts?
 (a) 24, 14, 10 (b) 20, 16, 12 (c) 22, 14, 12 (d) 26, 12, 10
28. Two teams participating in a competition had to take a test in a given time. Team B chose the easier test with 300 questions, and team A the difficult test with 10%

less questions. Team A completed the test 3 hours before schedule while team B completed it 6 hours before schedule. If team B answered 7 questions more than team A per hour, how many questions did team A answer per hour?

- (a) 15 (b) 18 (c) 21 (d) 24

29. A and B starting from x and y simultaneously, heading for y, x respectively. The ratio of their speeds is 2:1. If each one does 6 return trips (if A return trip is x to y; y to x) how many times would they met each other?
 (a) 3 (b) 4 (c) 5 (d) 6

30. An artist has a canvas of length 10 inches and breadth 7 inches. He paints a green square of side 1 inch in one corner of the canvas. He then paints the two adjacent square with blue colour. He then paints the two adjacent squares with blue colour. He continues to paint the entire canvas in such a way that no green square is adjacent to a blue square and vice vers (a) What is the ratio of number of blue squares to the number of green squares?
 (a) 10: 7 (b) 5 : 7 (c) 1: 1 (d) 7:10

31. Let $A = 0.a_1 a_2 a_3 a_1 a_2 a_3 a_1 a_2 a_3 \dots$ $B = 0.b_1 b_2 b_1 b_2 b_1 b_2 \dots$
 Both of them are non terminating numbers, wherein a_1, a_2, a_3, b_1, b_2 are integer between 1 to 9 not necessarily distinct. Then which of the following is an integer?
 (a) 1989?(A + B) (b) 10989?(A +B)
 (c) 100989?(A + B) (d) none of these

Instructions for questions 32 and 33: Pinky enters shop to buy almonds and more chocolates. She has to buy at least 7 units of each. She buys more biscuits than she does biscuits. She picks up a total of 26 items.

32. Haw many almonds does she buy?
 (a) 7 (b) 8 (c) 9 (d) Cannot be determined

33. Which of the following is not a valid value for number of chocolates bought?
 (a) 9 (b) 10 (c) 11 (d) All are valid

34. A spherical ball, when immersed in a cylinder of base radius 7cms. Raises the level of water in the cylinder by 2cms. Find the radius of the ball?
 (a) $\sqrt[3]{210/6}$ (b) $\sqrt[3]{147/2}$ (c) $\sqrt{94/7}$ (d) Cannot be determined

35. The Sum of the internal angle of a n-sided convex polygon is $An + B$, where A and B are constants. What is the value of A/B?
 (a) -2 (b) -1/2 (c) 2 (d) 1/2

36. In the given figure, AB and ED are extended to meet at C find the length of AB, if $BD = 5$ cm and $DE = 6\sqrt{2}$ cm.
 (a) 17 cm (b) 11 cm (c) 22 cm (d) 6 cm

37. A line is drawn from top left corner to the bottom right corner of a rectangle ABCD/ making it into two triangles, Area 1 and 2. Then,
 (a) area of 1 > area of 2
 (b) area of 1 < area of 2
 (c) area of 1 = area of 2
 (d) relationship depends upon the dimensions of the rectangle
38. Area ABC is 40 cm^2 . Length of BD is $\frac{1}{4}$ th of AB. The length of EC is $\frac{1}{3}$ rd of AC. Find the area of CDE.
 (a) $\frac{100}{9}$ (b) $\frac{200}{9}$ (c) $\frac{100}{3}$ (d) $\frac{50}{9}$
39. ABCD is a rectangle with AB = 6 cm and AD = 8 cm. QR is an arc which cuts the extension of AD at Q and AB at R. What is the length of the arc QR if C is a point on it?
 (a) $10p$ (b) $5p$ (c) $20p$ (d) $24p$
40. The diameter of the smaller circle is equal to the side of the square and the diagonal of the square is equal to the diameter of the bigger circle. The area is of the small circle to the bigger circle in the ratio...
 (a) $1 : 2$ (b) $2 : 3$ (c) $1 : \sqrt{2}$ (d) $1 : 4$
41. By what least number much 21, 600 be multiplied to make it a perfect cube?
 (a) 11 (b) 10 (c) 8 (d) 9
42. In the expression $y = \frac{3x^2 + 12x + 12}{x^2 + 4x + 12}$, how many integer values of y are possible if $2 < x < 2$ and $x < z < 2$?
 (a) 1 (b) 2 (c) 3 (d) 4
43. $y = \frac{p}{q}$ where $3 < p < 9$ and $15 < q < 21$, then y lies between
 (a) $\frac{1}{5} < y < \frac{3}{7}$ (b) $\frac{1}{7} < y < \frac{3}{7}$ (c) $\frac{1}{5} < y < \frac{3}{5}$ (d) $\frac{1}{7} < y < \frac{3}{5}$
44. LCM of x and y is 36 and HCF of x and y is 4. If $x = 4$, then which of the following is definitely not true?
 (a) y is divisible by 3 (b) y is divisible by 6
 (c) y is divisible by 9 (d) $x + y$ is divisible by 3

45. Jack speaks the truth in $\frac{3}{4}$ the cases and Jill lies in $\frac{1}{5}$ th cases. What is the percentage of cases in which both Jack and Jill contradict each other in stating a fact? (the answers can only be “yes” or “no”).
 (a) 60% (b) 35% (c) 20% (d) 15%
46. Sourav invests some money in 3% stock at 10% discount. He gains Rs. 250 when he sells the stock at a premium of 5%. What is the amount of money invested by him?
 (a) 1250 (b) 3000 (c) 2500 (d) None of these
47. 30 playing cards of length 12 cm and 6 cm are used to make a pyramid with 4 cards in the base. Find the area covered by the front side of the pyramid.
 (a) $288\sqrt{3}$ cm² (b) $180\sqrt{3}$ cm²
 (c) $360\sqrt{3}$ cm² (d) $576\sqrt{3}$ cm²
48. A man buys shares at a discount of Rs. X. Later he sells all but 10 of the shares he purchased at a premium of Rs. X. If his investment was Rs. 4500 and proceeds from the sale were Rs. 6250, how many shares did he buy originally? [Assume face value of shares as Rs. 100]
 (a) 50 (b) 40 (c) 60 (d) 90
49. A sum of money is sufficient to pay A's wages for 18 days and B's wages for 27 days. The money is sufficient to pay the wages of both for:
 (A) $10\frac{4}{5}$ days (B) $11\frac{3}{5}$ days (C) $15\frac{1}{4}$ days (D) $24\frac{1}{2}$ days
50. There is a five-volume dictionary among 50 books arranged on a shelf in random order. If the volumes are not necessarily kept side-by-side, the probability that they occur in increasing order from left to right is:
 (A) $\frac{1}{5}$ (B) $\frac{1}{5^{50}}$ (C) $\frac{1}{50}$ (D) None of these

SECTION 2

Directions: For each question, choose the best answer from the choices given.

Q. 1 to 3: In a row of four houses, each is owned by a different man and each of the men has a car. The houses are owned by Amarnath, Trinath, Dinesh and Bala. The colours of the cars are grey, violet, mauve and orange:

- I. The grey car is owned by Bala
 - II. Trinath doesn't stay in any of the end houses.
 - III. The second house from the left is owned by Amarnath
 - IV. The mauve car is owned by Dinesh
1. Which among the following statements cannot be true?
 - a) The house at the right end belongs to Dinesh
 - b) The house at the left end belongs to Dinesh
 - c) The house at the right end belongs to Bala
 - d) One of the owners of the houses at the two ends has an orange car
 2. In case Amarnath owns the violet car, which car can Trinath own?
 - I. The orange car
 - II. The mauve car
 - III. The grey car
 - a) I only
 - b) II only
 - c) III only
 - d) I or III only
 3. Which among the following statements is not necessarily true?
 - a) Trinath occupies the third house from the left
 - b) There is one house between Bala and Trinath
 - c) Dinesh and Bala are the ends of the block
 - d) Bala is at the end house

Q. 4 to 6: are based on the following statement

An increasing number of people prefer to retain their own individuality and their own identity. Consequently, this has led to a decline in the marriage rate.

4. Which among the following assumptions are used in the above premises?
 - I. When a person is married, he or she loses his or her own identity and is no longer accountable to himself or herself
 - II. Married persons do not find contentment as opposed to unmarried people
 - III. There has been a steady increase in the divorce rate.
 - a) I only
 - b) II only
 - c) III only
 - d) I and II only
5. Which of the following statements would weaken the above argument?
 - a) Most people are not mature enough to be married
 - b) Among most married couples the wife wants to have children
 - c) The stability resulting from marriage offsets the negative aspects of the dual responsibilities of husband and wife
 - d) Men and women have different sets of values
6. Which of the following statements would strengthen the above argument?

- a) Very few people prefer to bring up a family
- b) Emotionally, divorce is not an easy procedure
- c) Married people have to make a considerable effort to make the marriage last
- d) 500 out of 600 surveyed couples complained that they were losing their identity

Questions 7 to 9:

A bus has exactly six stops on its route. The bus first stops at stop one and then at stops two, three, four, five and six respectively. After the bus leaves stop six, the bus turns and returns to stop one and repeats the cycle. The stops are at six buildings that are, in alphabetical order: L, M, N, O, P, and Q.

- ? P is the third stop
- ? M is the sixth stop
- ? The stop O is the stop immediately before Q.
- ? N is the stop immediately before L.

7. In case N is the fourth stop, which among the following must be the stop immediately before P?

- a) O
- b) Q
- c) N
- d) L

8. In case L is the second stop, which among the following must be the stop immediately before M?

- a) N
- b) L
- c) P
- d) Q

9. In case a passenger boards the bus at O, rides past one of the stops, and gets off at P, which of the following must be true?

- a) O is stop one
- b) Q is stop three
- c) P is stop four
- d) N is stop five

10. Answer the following question based on the following statements:

- I. In case we assume that Jatin was insane, then Lalit was insane and vice versa.
- II. But in case neither Jatin nor Lalit were insane, then you can't believe Anu Malik.
- III. You can believe Anu Malik.

Taking the above statements into consideration, which among the following cannot be true?

- I. Both Jatin and Lalit were insane
 - II. Jatin was insane, but not Lalit
 - III. Lalit was insane, but not Jatin.
- a) I only
 - b) II only
 - c) III only
 - d) I and II

Q 11-13: Mrs. Varma wishes to renovate her house. She tries the services of a plumber, a carpenter, a painter, an electrician, and an interior decorator. The renovation is to be completed in a period of one working week i.e. Monday to Friday. Every worker will be

taking one complete day to do his job. Mrs. Verma will allow just one person to work per day:

- I. The painter can do his work only after the plumber and the carpenter have completed their jobs.
- II. The interior decorator has to complete his job before that of the electrician.
- III. The carpenter cannot work on Monday or Tuesday

11. In case the painter works on Thursday, which among the following alternatives is possible?

- a) The electrician works on Tuesday work after the painter
- b) The interior decorator does his work after the painter
- c) The electrician works on Friday on consecutive days
- d) The plumber and the painter work on consecutive days

12. In case the painter works on Friday, which among the following statements must not be true?

- a) The carpenter may work on Wednesday
- b) The carpenter and the electrician may work on consecutive days
- c) The plumber may work before the electrician does
- d) In case the carpenter works on Thursday, the electrician has to work on the previous day

13. Which arrangement among the following is possible?

- a) The carpenter will work on Wednesday and the plumber on Thursday
- b) The electrician will work on Tuesday and the interior decorator on Friday
- c) The painter will work on Wednesday and the plumber on Thursday
- d) The carpenter will work on Tuesday and the painter on Friday

Q. 14 to 17:

Atul has been assigned the task of allotting offices to six faculty members. The offices are numbered 1-6 and arranged in a row. Only a six-foot high divider separates them. So voices, sounds and cigarette smoke flow easily from one office to another:

- I. Sandhya needs to use the telephone quite often through the day
- II. Vikas and Kunal need adjacent offices as they need to consult each other often while working.
- III. Aditi is a senior employee and has to be allotted the office number 5, having the biggest window.
- IV. Mahipal requires silence in the offices next to his
- V. Tejash, Vikas, and Mahipal are all smokers.
- VI. Aditi finds tobacco smoke allergic and the offices next to hers have to be occupied by non-smokers.

Unless specifically stated, all the employees maintain an atmosphere of silence during office hours.

14. The ideal candidate to occupy the office number adjacent to Sandhya would be
a) Aditi b) Vikas c) Tejash d) Mahipal
15. The three employees who are smokers should be seated in the offices
a) 1, 2 and 4 b) 2, 3 and 6 c) 1, 2 and 3 d) 1, 2 and 6
16. The ideal office for Vikas would be
a) 1 b) 2 c) 3 d) 4
17. In the event of what occurrence, within a period of one month since the assignment of the offices, would a request for a change in office be put forth by one or more employees?
a) Mahipal quitting smoking
b) Tejesh taking over the duties formerly taken care of by Sandhya
c) The installation of a noisy teletype machine by Aditi in her office
d) Sandhya's needing silence in the office(s) next to her own

Questions 18 to 20:

Six geologists A, B, C, D, E, and F are to present a paper each at a one-day conference. Three of them will present their papers in the morning session before the lunch break whereas the other three will present them in the afternoon session. The lectures have to be scheduled in such a way that they comply with the following restrictions:

- ? B should present his paper immediately before C's presentation;
- ? Their presentations cannot be separated by the lunch break.
- ? D must be either the first or the last geologist to present his paper.

18. In case C is to be the fifth geologist to present his paper, then B must be
a) First b) Second c) Third d) Fourth
19. B could occupy any of the following places in the order of presenters EXCEPT
a) First b) Second c) Third d) Fourth
20. In case F is to present his paper immediately after D presents his paper, C could be scheduled for which of the following places in order of presenters?
a) First b) Second c) Third d) Fifth

Directions Q 21 to 25: Data Sufficiency.

Mark 1, if the question can be answered with the help of statement I alone,

Mark 2, if the question can be answered with the help of any one statement independently,

Mark 3, if the question can be answered with the help of both statements together,

Mark 4, if the questions cannot be answered even with the help of both statements together.

21. What is the value of $a^3 + b^3$?
I. $a^2 + b^2 = 12$ II. $ab = 3$.
22. Is the number completely divisible by 99?
I. The number is divisible by 9 and 11 simultaneously.
II. If the digits of the number are reversed, the number is divisible by 9 and 11.
23. A person is walking from Mali to Pali, which lies to its North-East and 1 km North of Mali
I. When the person has covered $1/3^{\text{rd}}$ the distance, he is 3km East and 1 km North of Mali.
II. When the person has covered $2/3^{\text{rd}}$ the distance, he is 6 km East and 2 km North of Mali.
24. What are the values of x and y?
I. $3x + 2y = 45$. II. $10.5x + 7y = 175.5$.
25. Three friends, P, Q and R are wearing hats, either black or white. Each person can see the hats of the other two persons. What is the colour of P's hat?
I. P says that he can see one black hat and one white hat.
II. Q says that he can see one white hat and one black.

SECTION3

Directions 1 - 6: Read the passage that follow and answer the question that follow each of them with respect to your understanding of the passage.

PASSAGE - I

TRIPs agreement provides a comprehensive set of global trade rules for the protection of copyright patents, trademarks, industrial designs, trade secrets, semiconductor lay out designs, and geographical indications, that apply to all the member-countries irrespective of their levels of development, natural and human endowments and history. Every member-country has been asked by the WTO to amend its national patent law to conform to that universal, globalised format. Under Article 65, the developed countries have been asked to change their laws and the less developed countries within another *five* years, and an additional five years

For legislation relating to pharmaceutical, agrochemical, food, alloys, etc. The least developed countries have been asked to make those changes by 2005 AD.

This attempt at global standardisation and uniformity by way of TRIPs agreement is in conflict with the main thrust of the Rio Earth Summit of 1992 that set out the conditions for sustainable development. These two reveal two contrasting types of international approaches and norms.

While the 1992 Earth Summit and the 1993 convention on bio-diversity (CBD) focused on 'diversity as being fundamental to sustain life and development, TRIPs and WTO are pushing for 'conformity' to international standardized norms on patents, services, labour, investment and what not irrespective of their history, ecology, level of economic development, etc. But despite their diametrically opposed viewpoints, 170 countries signed CBD upholding the need for diversity, and 50 countries signed the TRIPs agreement in 1994 claiming the urgency of uniformity, with a very large element of common names (130) in both.

The convention on bio-diversity (CBD) in its Article 16.5 specifically asserts that intellectual property right must not be in conflict with conservation and sustainable use of bio-diversity, a provision that has been totally ignored by those who compose the TRIPs agreement. While in case of agriculture the higher yield of patented products induces the farmers to switch from a more varied production pattern, the resulting narrowing of genetic base makes the economy and society more vulnerable to plant diseases and epidemics. It is true that the move towards cultivation of a smaller number of higher yielding varieties and the uniform spread of the same variety over a large space predates the present debate on patent, particularly since the introduction of the green revolution technology in the mid-sixties, but there can be no doubt that the latter has brought about a qualitative change in the scenario and has created possibility of a vast quantitative change too in that direction. So far no attempt has been made to reconcile the

two conflicting approaches of CBD and TRIP s. If diversity is so important for sustaining life, how can WTO demand conformity to standardised global formats?

1. The author points out that intellectual property rights and their administration mechanism
 - (a) is throttling the interest of global bio-diversity
 - (b) is working to help sustain global bio-diversity
 - (c) is being sustained by global bio-diversity
 - (d) is what the global bio-diversity needs

2. "As per the TRIPs agreement not much differentiation is made between a developed country such as the USA and an undeveloped country such as Sudan." In the light of the passage, this
 - (a) definitely true
 - (b) probably true
 - (c) probably false
 - (d) definitely false

3. According to the author, a higher-yield seed variety is not always welcome as it also ultimately leads to
 - (a) diseases among the consumers
 - (b) diseases among the plants
 - (c) monopoly of developed countries
 - (d) monopoly of developing countries

4. Out of the countries that signed CBD, the percentage of those that signed the TRIPs also, is about
 - (a) 76.5
 - (b) 74.5
 - (c) 78.5
 - (d) 80.2

5. Which of the following has not been said by the author in the passage?
 - (a) A high number of countries have signed both CBD and TRIPs, two conflicting treaties.
 - (b) A narrow genetic base, if stuck to for long, is fraught with danger.
 - (c) Although a nondiscriminatory approach has been followed in the applicability of TRIPs, there has been a confessional attitude in prescribing a timeframe for Transition, as per needs of the respective countries
 - (d) The author is supportive of international conventions and treaties such as TRIPs, CBD etc.

Directions 6 - 10: In each sentence below, there are two blank spaces. Below each sentence some pairs of words are given which are numbered (1), (2) (3) and (4), Pick out the most appropriate pair to fill in the blanks in the same order, to make the sentence meaningfully complete.

6. Since we read every book, we ... only the famous ones.
 - (a) have, sold
 - (b) should, buy
 - (c) must, ignore
 - (d) cannot, select

7. Suddenly out of the.... of weariness an old lady.... unexpectedly.
 - (a) mosaic, raised
 - (b) context, appeared

(c) texture, rose

(d) fabric, awakened

8. We have to.... in our young men and women sense of discipline, which is a for progress and happiness.

(a) generate, concomitant

(b) instill, need

(c) produce, necessity

(d) inculcate, prerequisite

9. of crops was due to continuous
 (a) Destruction, drought (b) Rum,
 (c) failure, drought (d) Depreciation, dropt.
10. Disarmament and development in our time are interrelated but
 development will depend on a change in the world's political thinking.
 (a) inevitably, substantial (b) closely, real
 (c) essentially, true (d) universally ultimate

Directions 11 - 15: In the following questions the first and the last parts of sentence are the numbered as 1 and 6. The rest of the sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence and find out which combination correct.

11. There are very few moments
 P. in a man's existence
 Q. little charitable commiseration,
 R. distress, or meets with so
 S. when he experiences so much ludicrous
 6. as when he is in pursuit of his own hat.
 (a) SRPQ (b) PSRQ (c) QRSP (d) PRQS
12. From the way
 P. speech patterns we can
 Q. his words and
 R. a person pronounces
 S. builds them into
 6. usually estimate his education,
 (a) SQPR (b) RQSP (c) QSPR (d) SQRP
13. 1. In making our
 P. reports of people's
 Q. confined ourselves
 R. conversations we have so far
 S. to straightforward
 6. remarks and observations.
 (a) PRQS (b) RPSQ (c) RQSP (d) PRSQ
14. If a speaker
 P. to a definite
 Q. person, this fact will
 R. addresses his question
 S. have to be brought out
 6. in file reported version of the question.
 (a) PSRQ (b) RPQS (c) PRSQ (d) QSRP

15. 1. Short descriptive.
 P. passages may be paragraphed
 Q. narrative, Or explanatory
 R. placed between
 S. with dialogue, especially if they are
 6. sentences of dialogue spoken by the same person
 (a) SRPQ (b) QPSR (c) PSRQ (d) RSPQ

Directions 16 – 25: In each of the question, a related pair of words or phrases is followed by four pair of phrases. Select the pair that best expresses a relationship similar to that expressed in the original pair.

16. SCURRY: MOVE::
 (a) chant: sing (b) chatter: talk
 (c) carry : lift (d) sleep : drowse
17. DROP CLOTH: FURNITURE::
 (a) banner: flagpole (b) towel : rack
 (c) pillow: bending (d) apron: clothing
18. ARCHIPELAGO: ISLAND::
 (a) arbour: bower (b) garden: flower
 (c) mountain: valley (d) constellation: star
19. PRESENTIMENT: HINDSIGHT
 (a) anticipation : reminiscence (b) provocation : exasperation
 (c) congratulation : consultation (d) optimism : despair
20. ASCETIC: SELF-DENIAL::
 (a) nomad: dissipation (b) miser: affluence
 (c) zealot: fanaticism (d) renegade: loyalty
21. SYCOPHANT: FLATTERY
 (a) impostor : deference (b) bandit : hypocrisy
 (c) swindler : fraudulence (d) advocate : defamation
22. ABYSS: DITCH
 (a) conflagration : campfire (b) velocity : acceleration
 (c) umbrella : rain (d) square : rectangle
23. NASCENT: FRUITION
 (a) prolific : completion (b) latent : characteristic
 (c) likely : probability (d) embryonic : maturity
24. AMORPHOUS: SHAPE
 (a) obvious : evidence (b) humble : belief

- (c) nondescript: classification (d) momentary : fame

.25. CLOUDBURST: RAINFALL

- (a) ashes : fire (b) sunbeam : warmth
(c) ripple : wave (d) gust : wind

Directions 26 - 30: among the four choices given below, pick the one which spells the word correctly:

26. (a) Partisan (b) Partesan (c) Partisane (d) Partison
27. (a) difenestration (b) defenestration
(c) defenistraction (d) definestration
28. (a) discombobulate (b) discombobulate
(c) discombobulate (d) discombobulate
29. (a) flibbertegibbet (b) flibbertigibbet
(c) flibberttigibbet (d) flibbertegibbete
30. (a) kerfuffle (b) keeffufle (c) kaerfuffle (d) kerfufle

Directions 31 - 36: Below we are giving several passages that make a logic argument. One of the sentences is missing from the paragraph. From amongst the given choice find out the sentences that should be put in place of the sentence so that the logical coherence of the given paragraph is maintained.

31. But there's little room for complacency. After all, the US buys 18.9 percent of India exports, making it the single- largest buyer of Indian products. The top three items are software services (\$91.6 billion), gems and jewellery (\$534 million) and garments, including accessories (\$268 million). Foreign Institutional Investors (FIIs), many of them American, have been driving the Indian stock market for the past year and, through 2000, the Indian stock market has moved in tandem with the NASDAQ. Clearly, there's a lot at stake.
- (a) Many companies of India depend upon European mother-companies for survival.
- (c) What's more, the US accounts for around 10 per cent of India's foreign direct investment (FDI) inflows.
- (c) Nevertheless, the US is ignored by Indian policy pundits.
- (d) Moreover, nearly 25% of Indian import bills are by G-8 of which the US is a signatory.
32. For a corporate sector that has been gunning for MAT since introduction in July, 1996, there's disappointment in store. The report merely asks for MAT to be reconstituted from the existing 7.5 percent of the book profit to a 0.75 percent of

adjusted net worth, plus 10 percent of the dividend distributed. Companies were fudging figures, says the committee member, to evade MAT. Counters Shyamal Mukherjee, partner, Price Waterhouse & Co: "Net worth can also be manipulated." In any case, points out U. R. Bhat, Chief Investment Officer, Jardine Fleming, the tax burden will be the same..... concurs Kapila: "The capital base, which would be the basis for computing MAT, could well be locked up in non-performing assets."

- (a) Besides, the new system will penalize companies that post returns.
- (b) Moreover, the new system may put foreign companies at an unfair advantage.
- (c) Moreover, MAT has already failed as a means of tax collections.
- (d) The government is seriously reconsidering withdrawing MAT.

33. Bank and financial institutions (FIs) are dismayed over the proposed law (based on the report of the V.B. Eradi committee on the law relating to insolvency and winding up of companies). Laments Shashi Bhojani, Deputy Managing Director, ICICI: "This merely renames the BIFR and burdens it with more work." Kishore Soni, Chief Executive Officer of Soni Industrial Restructuring Consultants, point out that while the BIFR merely attempted to revive dying companies, the NCLT will have to both cure sick firms and perform the last rites. As a result, he warns,

- (a) NCLT will have to perform duties of World Bank without having the matching power.
- (b) Labour disputes will only augment, leading to breach of industrial peace.
- (c) Revival and winding up of companies, each of which already takes nearly four years to complete, will only get further delayed.
- (d) Bureaucratic control over NCLT will only increase.

34. That was candidate Vajpayee. Now, he is prime minister, and prime ministers are easily moved into believe that the measure of the government's performance is the exchange rate and that too the rate directly means stability..... So must be some NDA constituents. When in the opposition, these parties, BJP included, used the depreciation of the rupee against the dollar as a stick to beat the government. Now, they see themselves at the receiving end.

- (a) The prime Minister Vajpayee must be priding himself on an inflating rupee.
- (b) Stability must be perceived by Vajpayee's team as a rock that defies laws of economics and gravity.
- (c) The BJP must be fuming over its loss of territory in fuming over exchange-rate fiascos.
- (d) I do not know what the prime minister thinks of the recent sharp decline in the exchange rate but I get the impression that the BJP is unhappy.

35. Naidu, though, belongs to a new breed of Indian politician. He may not be an economist but he is street smart enough to pay attention to changes taking place in the world. He realized that he needed professional help to articulate a new idea for Andhra..... They started off by refusing help because they had prepared, for free, a survey of Maharashtra that had been totally ignored by that state. So the story, as I was told by someone in Mc Kinsey, was they told Naidu he would have to give them evidence of his sincerity by attending a weekly meeting with their people throughout the preparation of the survey.
- (a) He first approached his party men for ideas.
 (b) He approached firms for funds asking for soft loans or aids.
 (c) He turned to consultancy firms Mc Kinsey.
 (d) He asked the forum of economists from Andhra Pradesh to guide him.
36. Indeed, one meeting between two competing carmakers on the timing of a prices hike happened right after the budget. April 3,2001, and April 8,2001, were the two dates discussed by the companies, but the meeting ended on the note that upping prices a month after slashing them wouldn't look nice'. So, why did these companies cut prices in a hurry? Anupam Majumadar, who tracks the automotive sector for Delhi-based rating agency ICRA, also cites peer pressure as a probable cause: "If your competitor is doing it, you have to do it too."
- (a) The manufacturers were under pressure to be seen to be doing something for the consumer.
 (b) The budget proposed wide-ranging tax rebates for the consumer.
 (c) The import duties on imported cars were being reduced.
 (d) These was slackness in demand for cars.

Directions 37 - 39: In each sentence below, there are two blank spaces. Below each sentence some pairs of words are given which are numbered (1), (2), (3), and (4). Pick out the most appropriate pair to fill in the blanks in the same order, to make the sentence meaningfully complete.

37. Sachin another feather his cap by his wonderful performance in the one-day match.
 (a) kept, by (b) captured, interest
 (c) took, in (d) Added ,to
38. Some people have the for learning foreign languages but they have no in speaking any.
 (a) mania, urge (b) aptitude, interest
 (c) stamina, fondness (d) capacity, ability.
39. Any system is likely tofor. ...of support from the public.
 (a) survive, lack (b) succeed, reason

(c) fail, want

(d) finish, failure

Directions 40 - 41: In the following questions, fill in the blanks with the most appropriate choice.

40. We need to find a new site with..... access to the European motorway network.
(a) ready (b) outright (c) widespread (d) pronounced
41. This will probably be the achievement of her career.
(a) itemized (b) uncanny (c) damaging (d) crowning

Directions 42 - 46: In the following five questions you are given a sentence. A part of the sentence is underlined which may or not contain an error. From among the given choices (1) indicates 'no error' in the sentence because it is nothing but the underlined portion of the question, reproduced.)

42. Undaunted by the political repercussions of his decision, the new gasoline rationing plan was announced by the Governor at the state office building last Friday.
(a) the new gasoline rationing plan was announced by the Governor
(b) the Governor's new gasoline rationing plan was announced.
(c) the Governor made announcement concern earning the new gasoline rationing plan
(d) the Governor announced the new gasoline rationing plan
43. Parker's testimony made it clear that he appointed Ryan before he had become aware of Ryan's alleged underworld connections.
(a) he appointed Ryan before he had become aware
(b) he appointed Ryan before his awareness
(c) he had appointed Ryan prior to his become aware
(d) he had appointed Ryan before becoming aware
44. Despite its being smaller in size than are conventional automobile engines, the new Adcock Engine can still deliver the horsepower needed most short-distance city driving.
(a) Despite its being smaller in size than are
(b) In spite of its being smaller than
(c) Although smaller than
(d) Despite its relative to
45. The principal reason for our failure was quite apparent to those whom we had brought into the venture
(a) to those whom we had brought

- (b) to them whom we had brought
- (c) to the ones whom we had brought
- (d) to those who we had brought

46. Although he was the most friendly of all present and different from the others, he hadn't hardly any friends except me.
- (a) different from others, he hadn't hardly any friends except me.
 - (b) different then others, he had hardly any friends except me.
 - (c) different from others, he had hardly any friends except me.
 - (d) different then others, he hadn't hardly any friends except I.

Directions: In the sentences given below, pick out the synonym from the four given choices:

47. AUGUST
(a) Common (b) Ridiculous (c) Dignified (d) Petty
48. LAUNCH
(a) Review (b) Begin (c) Propel (d) Push
49. RELIED
(a) Emphasised (b) Depended (c) Convinced (d) Followed
50. OBTAINED
(a) Combined (b) Procured (c) Acquired (d) Followed

SECTION 4

1. 'Get out, get going' is the punch line of
(a) Head & Shoulder (b) Pantene
(c) Shock (d) none of these
2. Which among the following brands is the world's largest tea brand?
(a) Lipton (b) Tetley
(c) Tata Tea (d) None of these
3. Which among the following statements is/are true vis-a-vis Touchier?
(a) It is a new name adopted by Bharti Telecom for basic telecom business
(b) It is a subsidiary of Bharti Telecom for its overseas operation
(c) It is a subsidiary of Bharti Telecom for its ISP business
(d) None of these
4. Which among the following brands does not belong to Nestle?
(a) Sunrise (b) Frappe
(c) Brue (d) Choc Cafe
5. Who among the following persons has received the first Wharton Indian Alumni Award?
(a) Mukesh Ambani (b) Anil Ambani
(c) Sunil Mittal (d) None of them
6. Rolling settlement, which was recently introduced in India, is associated with the
(a) foreign exchange market (b) bullion market
(c) stock market (d) banks
7. Bear market refers to
(a) decrease in stock prices (b) increase in stock prices
(c) stagnant stock prices (d) skyrocketing stock prices
8. De-materialisation of shares means transfer of shares from
(a) manual to depository system
(b) depository to manual system
(c) depository to depository system
(d) manual to manual system
9. Re-materialisation of shares means transfer of shares from
(a) manual to depository system
(b) depository to manual system
(c) depository to depository system
(d) manual to manual system
10. Global depository receipts are issued against

- (a) government bonds
- (b) government treasury bills
- (c) underlying domestic shares
- (d) certificate of deposits issued by banks

11. Functions of a bank may include
(a) retail operation
(b) Corporate operation
(c) Private banking
Choose the answer from the following choices:
(1) A, B, C (2) A, B
(3) C (4) B, C
12. How many shares are represented in Sensex of the Bombay Stock Exchange?
(a) 33 (b) 32
(c) 31 (d) 30
13. Primary market as a part of the capital market deals with only
(a) old securities (b) new securities
(c) new currency (d) old currency
14. Discount and Finance House of India is a subsidiary of the
(a) Reserve Bank of India
(b) Bombay Stock Exchange
(c) National stock Exchange
(d) Sebi
15. Which among the following is the largest stakeholder of the State Bank of India?
(a) Government of India
(b) Reserve Bank of India
(c) Unit Trust of India
(d) Tata group
16. Which among the following is the largest stock exchange of India?
(a) Bombay Stock Exchange
(b) National Stock Exchange
(c) Delhi Stock Exchange
(d) Calcutta Stock Exchange
17. Tejiwala in the stock market refers to a
(a) bull (b) bear
(c) financier (d) banker
18. Mandiwala in a stock market refers to a
(a) bull (b) bear
(c) financier (d) banker
19. Stag is a kind of
(a) bull (b) bear
(c) financier (d) banker

20. CRISIL is name of one
- (a) bank
 - (b) trading organisation
 - (c) credit rating agency
 - (d) security brooking organisation

21. What is the target for fiscal deficit as a percentage of the GDP during the fiscal 2002-03?
 (a) 5.1 % (2) 5.2%
 (c) 5.3% (d) 5.4%
22. Cash reserve ratio in India is determined by the
 (a) ministry of finance (b) Planning Commission
 (c) Sebi (d) Reserve Bank of India
23. Statutory liquidity ratio in India is determined by the
 (a) ministry of finance (b) Planning Commission
 (c) Sebi (d) Reserve Bank of India
24. For foreign exchange intervention, RBI can use
 (a) Dollar (b) Yen
 (c) Euro (d) Pound
 Choose the answer from the following choices:
 (1) A, B, C, D (2) A, B
 (3) A, C (4) A
25. Bancassurance refers to
 (a) assured return made by banks
 (b) banks without offering assured return
 (c) banks operating insurance business
 (d) banks owned by the Government
26. Tie is the abbreviated term of
 (a) The Indus Entrepreneurs
 (b) The India Entrepreneurs
 (c) Technology and Internet Entrepreneurs
 (4) none of these
27. Match the following. Column-I represents companies and Column-II their brands.

Column-I	Column-II
(a) HLL	i. Annupurna
(b) Cargil	ii. Nature Fresh
(c) Agro Tech	iii. Healthy World

 Choose the answer from the following choices:
 (1) A-iii, B-ii, C-I (2) A-i, B-ii, C-iii
 (3) A-i, B-iii, C-ii (4) none of these
28. Recently, Hindustan Motors (HM) has unveiled its new ambassador model. The name of the model is
 (a) Mondeo (b) Pajero
 (c) Retro (d) none of these

29. Which among the following countries is a home to watch manufacturer Timex Corporation?
(a) US (b) Switzerland
(c) Germany (d) UK
30. Which among the following is not the B-segment car?
(a) Maruti 800 (b) Maruti Zen
(c) Indica (d) Palio
31. 'Vardenafile', a new anti-impotence drug, is being seen as a challenge to Pfizer's Viagra. It is owned by
(a) Eli Lilly (b) GlaxoSmith Kline
(c) Bayer (d) none of these
32. Which among the following ministry deals with anti-dumping cases in India?
(a) Ministry of finance (b) Ministry of commerce
(c) Ministry of industry (d) None of these
33. In relation to Indian EXIM policy, SEZ stands for
(a) Special Export Zone (b) Special Economic Zone
(c) Special Excise Zone (d) None of these
34. Which among the following is wrongly matched?
(a) Thailand – bath (b) Malaysia - ringitt
(c) Indonesia – rupiah (d) Singapore - peso
35. Which among the following is the largest producer of tea in the world?
(a) Sri Lanka (b) India
(c) China (d) Kenya
36. Which among the following is the No 3 economy of Latin America?
(a) Brazil (b) Chile
(c) Argentina (d) Mexico
37. Circuit filters and circuit breakers are associated with
(a) bourse (b) television channels
(c) Reserve Bank of India (d) none of these
38. Non-performing Asset (NPA) as a term is associated with
(a) infrastructure sector (b) banking sector
(c) public sector (d) none of these
39. Moody's, Standard and Poors are the name of
(a) banks (b) management consultancies
(c) credit rating agencies (d) non-profit organisations

40. 'Call rate' is associated with the
- (a) stock market
 - (b) money market
 - (c) capital market
 - (d) none of these

41. Disinvestments is a process
- (a) only associated with the public sector
 - (b) can be implemented by both public and private sector
 - (c) associated with the public sector and multi-nationals
 - (d) none of these
42. SEBI is a
- (A) regulatory organisation
 - (B) autonomous organisation
 - (C) statutory organisation
- Choose the answer from the following choices:
- (a) A, B, C
 - (b) B, C
 - (c) A, C
 - (d) A
43. Firestone, a unit of Bridgestone Corp, has been found guilty of faulty tyre which led to 271 deaths and more than
- (a) Germany
 - (b) South Korea
 - (c) Japan
 - (d) None of these
44. Which among the following computer manufactures has launched the Blue Gene series of computers for protein science simulation?
- (a) Del Computer
 - (b) IBM
 - (c) Hewlet-Packard
 - (d) None of these
45. Which among the following companies use the punch line 'Bring home at leader'?
- (a) Samsung
 - (b) Videocon
 - (c) Whirlpool
 - (d) None of these
46. Which among the following companies acquired BPL Innovision's ISP (Internet Services Provider) business?
- (a) Data Access
 - (b) Spectramind
 - (c) HCL Tech
 - (d) None of these
47. Fortune has listed three Indian businessmen in its list of Asia's 25 most powerful businessmen. Which among the following is not included in it?
- (a) Azim Premji
 - (b) K Narayan Murthi
 - (c) Mukesh Ambani
 - (d) Nandan Nilekani
48. Parma at is a food group based in
- (a) Germany
 - (b) Italy
 - (c) USA
 - (d) UK
49. Which among The following channel has decided to go off air for few hours to encourage kids to go out and play instead of watching television?
- (a) Discovery
 - (b) National Geographic Channel
 - (c) Nicklodean
 - (d) Cartoon Network
50. Uttar Pradesh has decided to sell its mangoes under an umbrella brand name of

(a) Maharaja (b) Nawab (c) Avadh (d) Azam

SOLUTION

SECTION 1

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (b) | 2. (d) | 3. (a) | 4. (c) | 5. (b) | 6. (c) | 7. (a) | 8. (b) | 9. (c) | 10. (d) |
| 11. (b) | 12. (a) | 13. (d) | 14. (b) | 15. (b) | 16. (c) | 17. (b) | 18. (a) | 19. (c) | 20. (b) |
| 21. (a) | 22. (a) | 23. (d) | 24. (b) | 25. (a) | 26. (c) | 27. (c) | 28. (b) | 29. (c) | 30. (c) |
| 31. (b) | 32. (a) | 33. (a) | 34. (b) | 35. (b) | 36. (a) | 37. (c) | 38. (c) | 39. (b) | 40. (a) |
| 41. (b) | 42. (b) | 43. (d) | 44. (d) | 45. (b) | 46. (d) | 47. (c) | 48. (c) | 49. (b) | 50. (a) |

SECTION 2

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (d) | 2. (c) | 3. (b) | 4. (a) | 5. (c) | 6. (d) | 7. (b) | 8. (d) | 9. (a) | 10. (a) |
| 11. (c) | 12. (d) | 13. (a) | 14. (a) | 15. (c) | 16. (c) | 17. (b) | 18. (d) | 19. (c) | 20. (d) |
| 21. (d) | 22. (b) | 23. (b) | 24. (d) | 25. (d) | | | | | |

SECTION 3

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (a) | 2. (a) | 3. (b) | 4. (a) | 5. (d) | 6. (d) | 7. (c) | 8. (d) | 9. (c) | 10. (b) |
| 11. (b) | 12. (b) | 13. (a) | 14. (b) | 15. (b) | 16. (b) | 17. (d) | 18. (d) | 19. (c) | 20. (c) |
| 21. (c) | 22. (a) | 23. (d) | 24. (c) | 25. (d) | 26. (a) | 27. (b) | 28. (a) | 29. (b) | 30. (a) |
| 31. (a) | 32. (a) | 33. (a) | 34. (a) | 35. (a) | 36. (b) | 37. (d) | 38. (d) | 39. (c) | 40. (a) |
| 41. (c) | 42. (d) | 43. (c) | 44. (c) | 45. (c) | 46. (c) | 47. (c) | 48. (b) | 49. (b) | 50. (c) |

SECTION 4

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (a) | 2. (a) | 3. (a) | 4. (c) | 5. (b) | 6. (c) | 7. (a) | 8. (a) | 9. (b) | 10. (c) |
| 11. (a) | 12. (d) | 13. (b) | 14. (a) | 15. (b) | 16. (b) | 17. (a) | 18. (b) | 19. (a) | 20. (c) |
| 21. (c) | 22. (d) | 23. (d) | 24. (c) | 25. (c) | 26. (a) | 27. (b) | 28. (c) | 29. (a) | 30. (a) |
| 31. (c) | 32. (b) | 33. (b) | 34. (d) | 35. (b) | 36. (c) | 37. (a) | 38. (b) | 29. (a) | 40. (b) |
| 41. (b) | 42. (a) | 43. (c) | 44. (b) | 45. (b) | 46. (a) | 47. (a) | 48. (b) | 49. (a) | 50. (d) |

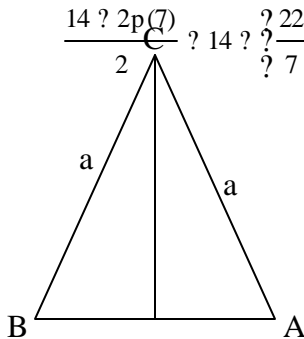
SOLUTION

Solutions for Section 1

- When $a = 3$ and $b = 2$, then the given equation is satisfied. For higher values of a and b , the given difference will exceed 1.
- Put $x = 1$. The given expression reduces to 0. When x is put as 1 in the options, the option which reduces to will be the right option.
- If the first player is at A, then the parcel travels from O to C. C takes it to D via arc CD and D brings it to A via arc DA. Then he puts the parcel back at O. Hence, parcel travels the entire diagonal and half the circumference =

$$\frac{14 \times 2\pi(7)}{2} + 14 \times \frac{22}{7} = 36\pi + 44$$

4.



$$a/2 \quad T \quad a/2$$

- At 4.30 p. m., August Kranti crosses Baroda and Rajdhani, late by 10 minutes, is 20 km away. Hence, they cross when they together travel 20 km.
Relative speed = $120 + 80 = 200$ kmph
They cover 20 km in 6 minutes. Hence, they meet at 4.36 p.m.
- If the number is of the form xy , then $\frac{3}{4}y = x + 10$ and $\frac{1}{4}x = y + 9$.
Solving, we get $x = 4$ and $y = 8$ and the number is 48.

For answers to questions 7 and 8: Refer to the following

Amar's speed = 16 m in 3 minutes or 20 m in 3 minutes.
Bonny's speed = 10m in 2 minutes or 16 m in 3 minutes.

- Amar climbs 720 m @ 20 m/3 minutes.
Hence, after 108 minutes he reaches 720 m and rests for 2 minutes which is his 36th break. He then walks at 16 m/3 minutes and takes 4 breaks and reaches 800 m after 40th break in exactly 2 hours. Hence, 40 rests.
- Amar reaches top by climbing at 20 m/3 minutes in 118 minutes. Bonny after 118 minutes is at 630 m. Hence he is 170 m away from the hilltop.

9. If observe the alternatives carefully, then $\frac{240}{10} = 24$ and $\frac{240}{8} = 30$

$$30 = 24 + 6 \text{ and } \frac{6}{24} = 100 = 24\%$$

Hence, it is 10 and 8

10 – 12: Form the terms of the progression. The sequence makes the answers obvious

$$13. \quad \frac{x + p}{t + \frac{S + 1000}{3600}} = x + p = \frac{18}{5S}$$

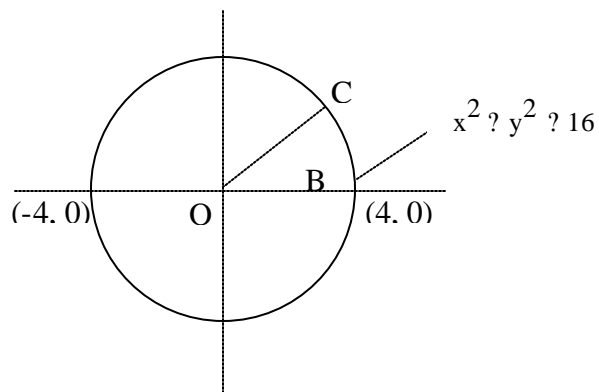
$$= x + \frac{5St}{18} = p$$

14. If the total number of balls in the bag is x, then $\frac{2x}{3} + \frac{4}{9} + \frac{x}{3} + \frac{1}{8} = 146$

$$\frac{8x}{27} + \frac{x}{24} = 146$$

Solving, $x = 432$

15 – 16:



$$\text{A covers } \frac{2}{3} + \frac{(2p + 4)}{2} = \frac{8p}{3}$$

Point C is such that $\angle COB = 60^\circ$ coordinates of $C = (2, 2\sqrt{3})$

17. A particular fruit and a vegetable will appear in $\frac{9}{2} \times \frac{4}{1}$ selections

$$\frac{9 \times 8 \times 4}{2} = 144 \text{ selections.}$$

18. (a) LCM of 6, 7, 8 & 9 = 504

all bells toll after 504 seconds

$$\text{in 2 hours, no. of times together} = \frac{2 \times 60 \times 60}{504} = 14 \text{ times}$$

19. Volume of bucket = 5 lts.

Dipping 3rd time means 10 lt of water has been drawn

$$\text{Volume occupied by bucket material} = \frac{2}{0.5} \times 4 \text{ lts}$$

$$\text{So total volume} = \frac{22}{7} \times 2 \times 10 \times 4 = 302 \text{ lts}$$

$$\frac{22}{7} \times 2 \times 10 \times h = 302$$

$$h = 1.96 \text{ m}$$

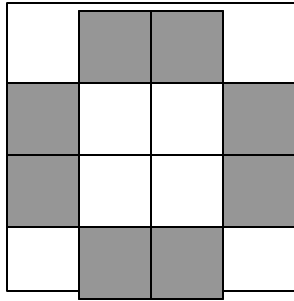
20. Let side of original cube be 100 units. Then, side of the smallest cube is 25 units.

$$\text{Surface area of the largest cube} = 6(100)^2$$

$$\text{Surface area of the smallest cube} = 6(25)^2$$

$$\text{Ratio of this surface areas is } \frac{25^2}{100^2} = \frac{1}{16}$$

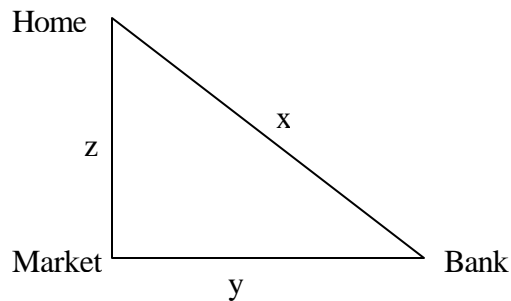
21.



If we look at one side of the cube, then 8 blocks have paint on 2 sides. We would find another 8 blocks on the opposite side. From the 4 remaining sides, there are 8 more blocks with paint on 2 sides which are not covered by the face and the back of the cube. Probability of choosing a cube with exactly 2 sides painted.

$$\frac{8 + 8 + 8}{\text{Total number of cubes}} = \frac{24}{4} = \frac{3}{8}$$

22.



$$x + y = 160 \text{ and } x - y = 40$$

$$(x + y)(x - y) = x^2 - y^2 = z^2 = 160 = 40$$

$$z = \sqrt{6400} = 80$$

23. $x = 100$

Time taken to cover $x = \frac{100}{30} = 3.3$ min

Time taken to walk $y = 30$ min

Average speed = Total distance / Total time = $\frac{160}{33.3} = 4.8$ m/min

24. The minimum % = $[(80 + 60) - 100] + 75 - 100 = 15\%$

25. This happens when the minimum %age of people watch starplus and DD or BBC. The minimum is $(75 + 80) - 100 = 55\%$. Hence the maximum watching DD or BBC but not starplus is $80 - 55 = 25\%$.

26. (c). between any 100 consecutive numbers , there will always be 33 multiples of 3.

27.

	<u>Ajay</u>	<u>Bunti</u>	<u>Chintu</u>
Step 4	16	16	16
— Final amounts			
Step 3	$16 - 8$	16	$16 + 8$
— Chintu gives Ajay			
Or	8	16	24
Step 2	8	$16 + 12$	$24 - 12$
— Bunti gives Chintu			
Or	8	28	12
Step 1	$8 + 14$	$28 - 14$	12
— Ajay gives Bunti			
Or	22	14	12
— Initial amounts			

28. Number of questions in the test taken by team A = 270

Let team A answer x number of questions for y hours

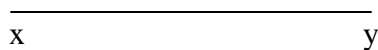
Then $xy = 270$

Team B answers $x + 7$ questions for $y - 3$ hours

Hence, $(x + 7)(y - 3) = 300$

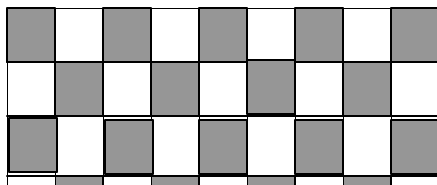
$\therefore x = 18$ and $y = 15$ or team A answers 18 questions per hour.

29.



The first meeting will be between $x, y\%$. The second at $x\%$. The third between $x, y\%$. The fourth between x, y and fifth at x . By this time the fastest guy would have completed 3 returns trips.

30. The canvas along the length would have 5 blue and 5 green squares for 1 inch breadth. Hence, they would have equal number of blue and green squares, similar to a chess board but with different dimensions.



31. $10989 \times (a + B) = (11 \times a_1 a_2 a_3 + 111 \times b_1 b_2)$.
 The LHS is a integer hence, $10989 \times (A + B)$ is an integer. Ans (b)

32. Let her buy 'a' almonds, 'b' biscuits, 'c' chocolates
 Minimum number is 7. Also $c > b > a$, $a + b + c = 26$

If $a = 8$, $b + c = 26 - 8 = 18$

As $b > a$ and $c > b$, this means $b = 8$ and $c = 10$ or $b = 9$ and $c = 9$

If $a = 8$, $b + c = 26 - 8 = 18$

As $b > a$, 'b' should be at least 9, which means 'c' will also be 9. but $c > b$

? $a = 8$ not possible

Hence 'a' can be 7 only. Hence (1)

33. If she buys 9 chocolates then the only possible value for almonds and biscuits given the restrictions are

$A = 7$, $b = 8$

But $7 + 8 + 9 = 24 \neq 26$

? $c = 9$ is not a valid value

34. Volume of sphere = volume of water displaced
 i.e. Volume of risen water

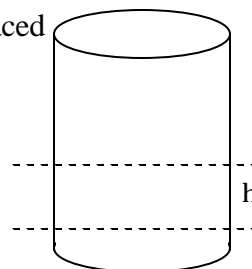
$= \frac{4}{3} \times \pi \times 7^2 \times 3 = 22/7 \times 7 \times 7 \times 2$

Let 'r' be radius of the spherical ball

? $\frac{4}{3} \pi r^3 = \frac{4}{3} \pi \times 7^2 \times 2$

? $r^3 = \frac{7^2 \times 3}{2} = \frac{147}{2}$

? $r = \sqrt[3]{147/2}$



35. $(2n - 4) 90^\circ$ is the sum of interior angle of an n-sided convex polygon.

? $(2n - 4) 90^\circ = n \times 180^\circ$

$180^\circ n - 360^\circ = 180^\circ n$

$A/B = 180^\circ / -360^\circ = -1/2$

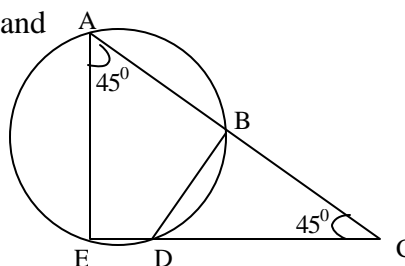
36. ? $\angle BDC = \angle EAC = 45^\circ$

(Since ABDE is a cyclic quadrilateral and

? $\angle EAB + \angle EDB = 180^\circ$

? $\angle EDB = 135^\circ$

? $\angle BDC = 45^\circ$



? BC = BD 5 cm
 and CD = $\sqrt{5^2 + 5^2} = 5\sqrt{2}$ cm
 Now, CD ? CE = BC ? AC
 ? AC ? $\frac{5\sqrt{2} \cdot (5\sqrt{2} + 6\sqrt{2})}{5}$
 = 11?2 ? ?2 = 22 cm
 ? AB = 17 cm

37. A rectangle when divided by its diagonal, will always be broken down into two equal triangles.

38. Through E and D, draw lines parallel to the base BC.

Area of triangle APE = $\frac{2 \cdot 2}{2} = 2$

Area of triangle ADQ = $\frac{3 \cdot 3}{2} = 4.5$

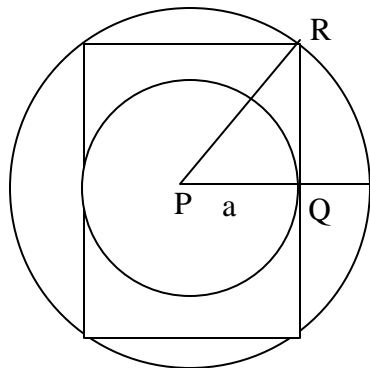
Therefore, area of EDC = area of EDQ + area of QDC

= $\frac{1}{2} \cdot 3 \cdot 3 + \frac{2 \cdot 2}{2} + 40 \cdot \frac{1}{2} = \frac{9}{2} + 2 + 20 = 25.5$

39. If AB = 6 and AD = 8, then AC or BD = $\sqrt{8^2 + 6^2} = 10$
 QR is $\frac{1}{4}$ th of the circumference of a circle whose center is A. Hence,

QR = $\frac{2\pi r}{4} = \pi r$

40. The figure can be drawn as such



If radius of smaller circle = PQ = a , then QR = a and PR = $\sqrt{PQ^2 + QR^2} = \sqrt{a^2 + a^2} = a\sqrt{2}$

Area of smaller circle = πa^2

Area of bigger circle = $\pi (a\sqrt{2})^2 = 2\pi a^2$

Ratio of their areas = 1 : 2

$$= \frac{100}{9}$$

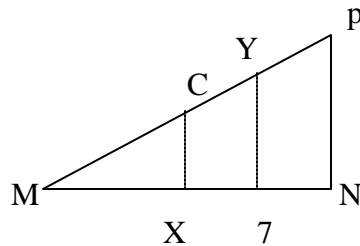
41. (b) Resolving $21600 = 2^3 \cdot 2^2 \cdot 3^3 \cdot 5^2$
 ∴ the no. to make a perfect cube = $2 \cdot 5 = 10$
42. $y = \frac{3(x+2)}{(x+6)}$ since $x \neq -2$; Hence y takes integer values only when $x = 0$ or $x = -2$
43. min of $y = \frac{3}{21} = \frac{1}{7}$
 max of $y = \frac{9}{15} = \frac{3}{5}$
 So, y is $\frac{9}{15} = \frac{3}{5}$
 So, y is $\frac{1}{7} = \frac{3}{5}$
44. LCM = 36, HCF = 4 and $x = 4 \Rightarrow y = 36$. $x + y$ is not divisible by 3
45. Jack and Jill will contradict each other when one speaks the truth and the other lies.
 Probability that Jack and Jill contradict each other = $\frac{3}{20} \cdot \frac{1}{5} + \frac{7}{20} \cdot \frac{1}{5} = 35\%$.
46. Let x be the amount invested, then number of stocks purchased = $\frac{x}{90}$.
 Sale proceeds = $\frac{x}{90} \cdot 105$
 $\frac{x}{90} \cdot 105 = x \cdot 250 \Rightarrow x = 1500$
47. Total number of triangles = 16
 Area of one triangle = $\frac{\sqrt{3}}{4} \cdot 12 \cdot 12 = 36\sqrt{3} \text{ cm}^2$
48. Let the man buy z shares
 $z(100 - x) = 45000$ and $(z - 10)(100 + x) = 6250$
 Solving we get $z = 60$
49. Let the sum of money = Rs. Y
 & No. of days for which money is sufficient to pay both = n days
 A's wage for one day = $Y/18$
 B's = $Y/27$
 According to the question,
 $(Y/18 + Y/27) \cdot n = Y$
 No. of days, 'n' = $\frac{1}{\frac{1}{18} + \frac{1}{27}} = \frac{54}{5} = 10\frac{4}{5}$ days Ans. (A)

50. The number of ways of arranging 50 books is ${}^{50}P_{50} = 50!$. The number of ways of choosing places of the five volume dictionary is ${}^{50}C_5$, and the number of ways of arranging the remaining 45 books is ${}^{45}P_{45} = 45!$. Thus the number of favourable ways is ${}^{50}C_5 (45!)$ so that the probability of the required event is
- $$\frac{{}^{50}C_5 (45!)}{50!} = \frac{50!}{5!45!} \cdot \frac{45!}{50!} = \frac{1}{5!} = \frac{1}{120} \text{ Ans. (D)}$$

SECTION 2

1. d T and A do not live in any of the end houses, hence B and D live there. They own grey and mauve cars, hence e) is wrong.
2. a If A owns violet, only one colour (orange) is left for T.
3. b B is at the extreme, so T can be adjacent to him, hence b) is not necessarily true.
4. a It is assumed that a married person loses his identity. Statements II & III are not in the statement.
5. c If some other benefit is obtained, then the disadvantage of marriage can be overcome, hence c).
6. d If a majority of people complained about losing their identity, then the statement would be strengthened.
7. b We get OQPML. Hence Q is before P.
8. d NLPOWM. Then Q is immediately before M.
9. a From Q. 127.
10. a If you believe Anu Malik, then J or L are insane. But from statement I, both must be insane together.
11. c If painter works on Thursday, then carpenter and plumber have come before him and D must also be before E. This leaves E for Friday.
12. d If painter is on Friday, all others are before him. but E can work on Wednesday or Tuesday, hence e) is wrong.
13. a We get : I, E, PL, C, P, hence a).
14. a Since A is at 5, places 4 and 6 must not have smokers. Hence TVM can occupy 1, 2 or 3 places only and S and K can occupy 4 or 6. As K is not an answer choice, we can say that A must be next to S.
15. c From Q. 135.
16. c V and K must be together, hence V must be at 3 and K at 4.
17. b If T takes over the duties of S, then he must talk on the phone and therefore he cannot be next to M, who requires silence. Thus T or M must ask for a change in seating plan.
18. d B must precede C, hence must be at 4.
19. c B cannot be at 3 because it would mean then C must come after lunch, which is not allowed.
20. d D must be at 1, F at 2; then B and C must come after lunch, which means that c must be at 5.
21. Neither of the two statements alone is sufficient to answer the question. We know that $(a^3 + b^3) = (a + b)(a^2 - ab + b^2)$. By combining the two statements, we obtain $(a^2 - ab + b^2) = 19$ and $(a + b) = 28$. As $(a + b)$ cannot be uniquely determined, even both statements together are not sufficient to answer the question.

22. Statement I alone is sufficient to answer the question as the statement implies that the number is a multiple of 99. From statement II, we know that the reversed number is a multiple of 9. Whatever be the arrangement of the digits in this number, the number formed will always be a multiple of 9. So, the original number must be a multiple of 9. Consider the number 1012. This number is divisible by 11. If we reverse the order of the digits, the by 11. From this example, we can infer that if the reversed number is divisible by 11, then the original number must have been divisible by 11. From this example, we can infer that if the reversed number is divisible by 11, then the original number must have been divisible by 11. So, from statement II, we can conclude that the original number must have been a multiple of 9 and 11 and hence divisible by 99. Therefore, the question can be answered with the help of any one statement independently.
23. Consider the adjoining figure. From statement I, the man has covered the distance $MO = \frac{1}{3} MP$. $MX = 3$ and $OX = 1$. Using Pythagoras theorem in $\triangle OXM$, we can obtain MO and hence MP . So, statement I alone is sufficient to answer the question. From statement II, the man has covered the distance $MY = \frac{2}{3} MP$. $MZ = 6$ and $YZ = 2$. Using Pythagoras theorem in $\triangle MYZ$, we can obtain MY and hence MP . So, statement II alone is sufficient to answer the question. Therefore, the question can be answered with the help of any one statement independently.



24. Neither of the two statements alone is sufficient to answer the question. From statement I, we get $1.5x + y = 22.5$. From statement II, we get $1.5x + y = 22.5$. As both equations are the same, it is not possible to determine the value of x or y . Therefore, even both statements together are not sufficient to answer the questions.
25. Neither of the two statements alone is sufficient to answer the question. From statement I, let us assume that q and R are wearing the white and black hats respectively.