

Section I

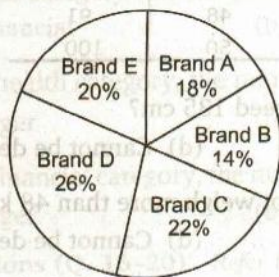
Data Interpretation & Logical Reasoning

Directions (1-3) Read the graph carefully and answer the questions that follow.

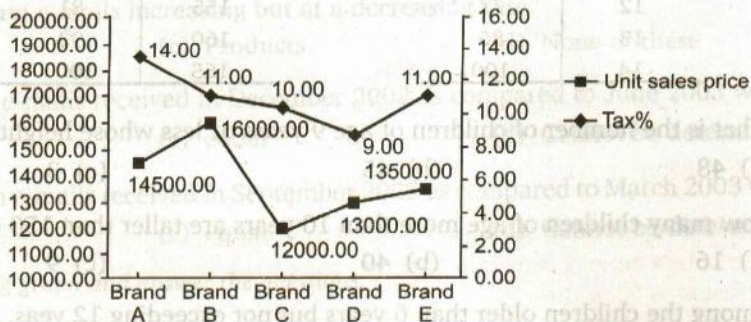
One of the graph below represent the market share of five different brands of bikes sold in a particular city. The total number of bikes sold was 25000.

The other one shows the unit sales price and the Tax the brand is subjected to. Tax is calculated on the sales price.

Market Share
(Total units = 25000)



Unit Sales Price and Tax %



1. What is the difference in number of units sold by the most popular brand and the second most popular brand?

- (a) 800 (b) 1000 (c) 1200 (d) 1400

2. Which brand earned the maximum revenue before tax?

- (a) A (b) B (c) C (d) D

3. Which brand earned the maximum revenue after tax?

- (a) A (b) B (c) C (d) D

4. Whenever Amit sings, Bharat gets a headache and Chandu complains. If Chandu is not complaining, which of the following statements must be true?

- (a) Amit is singing and Bharat has a headache.
 (b) Bharat has a headache but Amit is not necessarily singing.
 (c) Amit is singing, but Bharat does not necessarily have a headache.
 (d) Amit is not singing.
5. Atul will eat the apple if Bhanu does not cook. Based only on the information above, which of the following must be true?
 (a) Atul will not eat the apple if Bhanu cooks (b) If Atul did not eat the apple, Bhanu did cook
 (c) If Atul eats the apple, then Bhanu did not cook (d) If Bhanu does not cook, Atul will not eat the apple

Directions (6–8) Answer the questions on the basis of the information given below.

Table A below provides data about ages of children in a school. For the age given in the first column, the second column gives the number of children not exceeding that age. For example, first entry indicates that there are 9 children aged 4 years or less. Tables B and C provide data on the heights and weights respectively of the same group of children in a similar format. Assuming that an older child is always taller and weighs more than a younger child.

| Table A | |
|------------|--------|
| Age (year) | Number |
| 4 | 9 |
| 5 | 12 |
| 6 | 22 |
| 7 | 35 |
| 8 | 42 |
| 9 | 48 |
| 10 | 60 |
| 11 | 69 |
| 12 | 77 |
| 13 | 86 |
| 14 | 100 |

| Table B | |
|-------------|--------|
| Height (cm) | Number |
| 115 | 6 |
| 120 | 11 |
| 125 | 24 |
| 130 | 36 |
| 135 | 45 |
| 140 | 53 |
| 145 | 62 |
| 150 | 75 |
| 155 | 81 |
| 160 | 93 |
| 165 | 100 |

| Table C | |
|-------------|--------|
| Weight (kg) | Number |
| 30 | 8 |
| 32 | 13 |
| 34 | 17 |
| 36 | 28 |
| 38 | 33 |
| 40 | 46 |
| 42 | 54 |
| 44 | 67 |
| 46 | 79 |
| 48 | 91 |
| 50 | 100 |

6. What is the number of children of age 9 years or less whose height does not exceed 135 cm?
 (a) 48 (b) 45 (c) 3 (d) Cannot be determined
7. How many children of age more than 10 years are taller than 150 cm and do not weigh more than 48 kg?
 (a) 16 (b) 40 (c) 9 (d) Cannot be determined
8. Among the children older than 6 years but not exceeding 12 years, how many weigh more than 38 kg?
 (a) 34 (b) 52 (c) 44 (d) Cannot be determined

Directions (9–12) Answer the questions on the basis of the information given below.

A study was conducted to ascertain the relative importance that employees in five different countries assigned to five different traits in their chief executive officers. The traits were compassion (C), decisiveness (D), negotiation skills (N), public visibility (P) and vision (V). The level of dissimilarity between two countries to any of the five traits. The following table indicates the rank order of the five traits. The following table indicates the rank order of the five traits for each country.

| Rank | Country | | | | |
|------|---------|-------|-------|----------|----------|
| | India | China | Japan | Malaysia | Thailand |
| 1 | C | N | D | V | V |
| 2 | P | C | N | D | C |
| 3 | N | P | C | P | N |
| 4 | V | D | V | C | P |
| 5 | D | V | P | N | D |

9. Which of the following countries is least dissimilar to India?
 (a) China (b) Japan (c) Malaysia (d) Thailand
10. Which amongst the following countries is most dissimilar to India?
 (a) China (b) Japan (c) Malaysia (d) Thailand
11. Which of the following pairs of countries are most dissimilar?
 (a) China and Japan (b) India and China (c) Malaysia and Japan (d) Thailand and Japan
12. Three of the following four pairs of countries have identical levels of dissimilarity. Which pair is the odd one out?
 (a) Malaysia and China (b) China and Thailand (c) Thailand and Japan (d) Japan and Malaysia

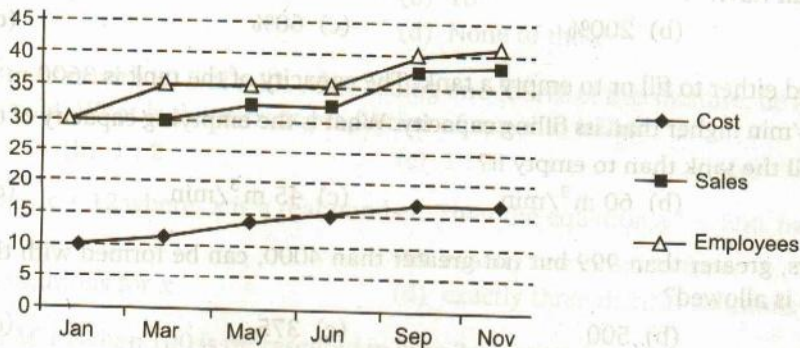
Directions (Q. 13–15) Answer the questions on the basis of the information given below.

Spam that enters our electronic mailboxes can be classified under several spam heads. The following table shows the distribution of such spam worldwide over time. The total number of spam e-mails received during December 2002 was larger than the number received in June 2003. The total number of spam e-mails received during September 2002 was larger than the number received in March 2003. The figures in the table represent the percentage of all spam e-mails received during that period, falling into those respective categories.

| Category | Sep 2002 | Dec 2002 | Mar 2003 | Jun 2003 |
|-----------|----------|----------|----------|----------|
| Adult | 38 | 33 | 19 | 17 |
| Financial | 25 | 30 | 37 | 45 |
| Health | 11 | 19 | 5 | 18 |
| Internet | 5 | 3 | 10 | 6 |
| Products | 3 | 7 | 10 | 11 |
| Scams | 5 | 6 | 11 | 2 |
| Others | 13 | 2 | 8 | 1 |

13. In which category was the percentage of spam e-mails increasing but at a decreasing rate?
 (a) Financial (b) Scams (c) Products (d) None of these
14. In the health category, the number of spam e-mails received in December 2002 as compared to June 2003 was
 (a) larger (b) smaller (c) equal (d) Cannot be determined
15. In the financial category, the number of spam e-mails received in September 2002 as compared to March 2003 was
 (a) larger (b) smaller (c) equal (d) Cannot be determined

Directions (Q. 16–20) Refer to the following graph and answer the questions.



16. Which month has the highest profit per employee?
 (a) September (b) July (c) January (d) March

17. Which month records the highest profit?

9. Which of the following countries is least dissimilar to India?
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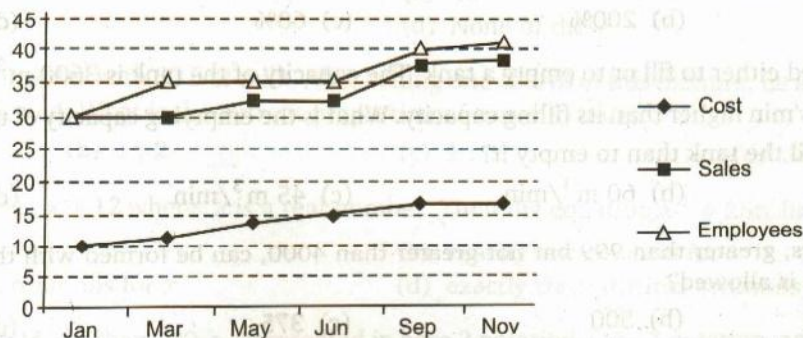
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17. Which month records the highest profit?

18. In which month is the percentage increase in sales over the sales two months before, the highest?
(a) March (b) September (c) July (d) May
19. In which month is the total increase in the cost highest as compared to the cost two months ago?
(a) March (b) September (c) July (d) May
20. Assuming that no employee left the job, how many more people did the company take on in the given period?
(a) 4600 (b) 5100 (c) 5800 (d) 6400

Section II

Quantitative Aptitude

21. The largest number amongst the following that will perfectly divide $101^{100} - 1$ is
(a) 100 (b) 10000 (c) 100^{100} (d) 100000
22. Rohan and Sohan take a vacation at their grandparents' house. During the vacation, they do any activity together. They either played Tennis in the evening or practiced Yoga in the morning, ensuring that they do not undertake both the activities on any single day. There were some days when they did nothing. Out of the days that they stayed at their grandparents' house, they involved in one of the two activities on 22 days. However, their grandmother while sending an end of vacation report to their parents stated that they did not do anything on 24 mornings and they did nothing on 12 evenings. How long was their vacation?
(a) 36 days (b) 14 days
(c) 29 days (d) Cannot be determined
23. The equation, $2x^2 + 2(p + 1)x + p = 0$, where p is real, always has roots that are
(a) Equal (b) Equal in magnitude but opposite in sign
(c) Irrational (d) Real
24. Ram Kumar buys every year Bank's cash certificates of value exceeding the last year's purchase by ₹ 300. After 20 years, he finds that the total value of the certificates purchased by him is ₹ 83000. Find the value of the certificates purchased by him in the 13th year.
(a) ₹ 4900 (b) ₹ 6900 (c) ₹ 1300 (d) None of these
25. Ram starts working on a job and works on it for 12 days and completes 40% of the work. To help him complete the work, he employs Ravi and together they work for another 12 days and the work gets completed. How much more efficient is Ram than Ravi?
(a) 50% (b) 200% (c) 60% (d) 100%
26. A pump can be used either to fill or to empty a tank. The capacity of the tank is 3600 m^3 . The emptying capacity of the pump is $10 \text{ m}^3/\text{min}$ higher than its filling capacity. What is the emptying capacity of the pump, if pump needs 12 more minutes to fill the tank than to empty it?
(a) $50 \text{ m}^3/\text{min}$ (b) $60 \text{ m}^3/\text{min}$ (c) $45 \text{ m}^3/\text{min}$ (d) $90 \text{ m}^3/\text{min}$
27. How many integers, greater than 999 but not greater than 4000, can be formed with the digits 0, 1, 2, 3 and 4, if repetition of digits is allowed?
(a) 499 (b) 500 (c) 375 (d) 376
28. How many five digit positive integers that are divisible by 3 can be formed using the digits 0, 1, 2, 3, 4 and 5, without any of the digits getting repeating?
(a) 15 (b) 96
(c) 216 (d) 120

29. There are four boxes. Each box contains two balls: one red and one blue. You draw one ball from each of the four boxes. What is the probability of drawing at least one red ball?

- (a) $\frac{1}{2}$ (b) $\frac{1}{4}$
 (c) $\frac{1}{16}$ (d) $\frac{15}{16}$

30. Which of the following statements is not correct?

- (a) $\log_{10} 10 = 1$ (b) $\log(2 + 3) = \log(2 \times 3)$
 (c) $\log_{10} 1 = 0$ (d) $\log(1 + 2 + 3) = \log 1 + \log 2 + \log 3$

31. The sum of the number of factors of the number N and N^2 is 34. How many such distinct numbers $N < 150$ exist?

- (a) 6 (b) 2 (c) 4 (d) 3

32. The sum of 3rd and 15th elements of an arithmetic progression is equal to the sum of 6th, 11th and 13th elements of the same progression. Then which element of the series should necessarily be equal to zero?

- (a) 1st (b) 9th (c) 12th (d) None of these

33. The function $f(x) = |x - 2| + |2.5 - x| + |3.6 - x|$, where x is a real number, attains a minimum at

- (a) $x = 2.3$ (b) $x = 2.5$ (c) $x = 2.7$ (d) None of these

34. The remainder, when $(1523 + 2323)$ is divided by 19, is

- (a) 4 (b) 15 (c) 0 (d) 18

35. In a race of 200 m, A beats S by 20 m and N by 40 m. If S and N are running a race of 100 m with exactly the same speed as before, then by how many metres will S beat N?

- (a) 11.11 m (b) 10 m (c) 12 m (d) 25 m

Directions (36–37) These questions are based on the following information:

There are three different cable channels namely Ahead, Luck and Bang. In a survey, it was found that 85% of viewers respond to Bang, 20% to Luck, and 30% to Ahead. 20% of viewers respond to exactly two channels and 5% to none.

36. What percentage of the viewers responded to all three?

- (a) 10 (b) 12
 (c) 14 (d) None of these

37. Assuming 20% respond to Ahead and Bang, and 16% respond to Bang and Luck, what is the percentage of viewers who watch only Luck?

- (a) 20 (b) 10
 (c) 16 (d) None of these

38. A milkman mixes 20 L of water with 80 L of milk. After selling one-fourth of this mixture, he adds water to replenish the quantity that he has sold. What is the current proportion of water to milk?

- (a) 2 : 3 (b) 1 : 2 (c) 1 : 3 (d) 3 : 4

39. Let $u = (\log_2 x)^2 - 6 \log_2 x + 12$ where, x is a real number. Then the equation $x^u = 256$, has

- (a) no solution for x (b) exactly one solution for x
 (c) exactly two distinct solutions for x (d) exactly three distinct solutions for x

40. A positive whole number M less than 100 is represented in base 2 notation, base 3 notation, and base 5 notation. It is found that in all three cases the last digit is 1, while in exactly two out of the three cases the leading digit is 1. Then M equals

- (a) 31 (b) 63
 (c) 75 (d) 91

Verbal Ability & Reading Comprehension

Directions (41–50) The passage given below is followed by a set of three questions. Choose the most appropriate answer to each question.

Bruce Robbins's excellent article points up the paradox of cosmopolitanism - that it seems 'perpetually torn between an empirical dimension and a normative dimension'. For Robbins, the paradox of cosmopolitanism is rooted in the limited empirical sense of political community. For genuine democracy people need to belong to the same community of fate', and there is at present little evidence of such a sense of cosmopolitan consciousness. Although leading (Western) governments make claims in support of cosmopolitan human rights established by virtue of membership of a common humanity, their practice is often limited by the 'communitarian' reality. The lack of 'shared fate' leads to inequalities in practice as governments are often reluctant to sacrifice either treasury resources or military lives in the cause of others, and citizens appear unwilling to shoulder the tax burdens involved in any potential cosmopolitan redistribution of wealth and opportunities.

Robbins suggests that it would be wrong to use the empirical limits to cosmopolitan practices as an argument against normative cosmopolitan claims. He asserts that there is 'no possibility of simply choosing the actual over the normative' and instead suggests that we should accept that the 'contradiction' exists.

A solution to the problem lies in political change which seeks 'to bring abstraction and actuality together'. A 'Left cosmopolitanism' is one that denies 'the past authority over the present' - the empirical reality that 'there is as yet little evidence of transnational solidarity' should be the justification for engagement and struggle on the side of the progressive cosmopolitan cause. This campaigning perspective is advocated by several cosmopolitan theorists who, in different ways, seek to develop ideas and mechanisms whereby global civil society can encourage and further cosmopolitan practices against the communitarian inclinations of national governments and their electorates. This article suggests that the 'cosmopolitan paradox' - the gap between universal aspiration and hierarchical practice - is not merely one of cosmopolitan 'consciousness' lagging behind an immanent cosmopolitan 'reality'. Rather, the paradox is rooted in the essence of the cosmopolitan thesis itself. The limitations of abstract normative cosmopolitan conceptions of 'rights' and 'responsibilities', in a world structured by economic and social inequalities, raise major questions over the progressive claims made by cosmopolitan theorists. In fact, rather than challenging existing international structures of power, there is a real danger that the cosmopolitan impulse will legitimise a much more hierarchical set of international relationships.

Whether the cosmopolitan aspiration takes the form of Robbins's call for a transnational welfare safety net or claims for the protection and promotion of a more extensive range of human rights, all cosmopolitan perspectives reflect the increasing prominence of individual rights claims in the international sphere. Leading cosmopolitan theorists seek to challenge the restrictions of the UN Charter framework, imposed by the major powers in the aftermath of the Second World War, which formally prioritised the 'state-based' principles of sovereignty and non-intervention. They argue that these principles need to be replaced by a new set of cosmopolitan principles, which make the universal individual rights of members of 'global society' the primary focus.

41. Which of the following is a part of the empirical dimension as per the passage?
- (a) Shared fate (b) Universal aspiration
(c) Inequalities in practices (d) The cosmopolitan paradox
42. Which of the following can be inferred from the passage?
- (a) Cosmopolitan theorists seek to legitimise a much more hierarchical set of international relationships
(b) Cosmopolitan theorists feel that the principles of sovereignty and non-intervention need to be implemented at a global level
(c) The theories and conceptions of cosmopolitanism are responsible for the cosmopolitan paradox
(d) Cosmopolitan consciousness does not really lag behind an immanent cosmopolitan reality
43. The author is primarily concerned with
- (a) exploring the cosmopolitan paradox and solutions and reasons for the same
(b) exploring the tussle between the advocates of nationalism and cosmopolitanism
(c) arguing that the cosmopolitan paradox will continue to exist
(d) enthusing that 'empirical reality' is not an excuse to do away with cosmopolitan aspirations

44. For the question word below, a contextual usage is provided. Pick the word from the alternatives given that is closest, in meaning, in the given context.

Amortise It was a rude shock to witness the sober, usually docile child in a DIOK, fighting ferociously while the parents amortised his insatiable demands.

- (a) Servile (b) Deliberate (c) Abort (d) Decant

45. Five sentences are given below, labelled A, B, C, D and E. They need to be arranged in a logical order to form a coherent paragraph/passage. From the given options, choose the most appropriate option.

- (A) The revolution began as an attack on despotism.
 (B) Already by 1762 Rousseau was implying in his 'Social Contract' that there was no meaningful difference between the authority of a despot and that of a monarch.
 (C) As usual, regular usage soon diluted the original rigor of the expression's meaning.
 (D) Montesquieu has defined its spirit as "The rule of one, according to no law".
 (E) Obeying no law, authority was arbitrary and its animating spirit was fear.

- (a) ABDCE (b) AEDCB (c) ADECB (d) None of these

46. The word given below has been used in sentences in four different ways. Choose the option corresponding to the sentence in which the usage of the word is incorrect or inappropriate.

Make

- (a) May I make so bold as to suggest that you comply to the rules of the game?
 (b) Thiruvan decided to make over her studio to the house where he grew up.
 (c) It's so strange that Aparna could not make up the meaning of the riddle.
 (d) The two friends fought vicariously, but their neighbours forced them to make up.

47. There are two gaps in the sentence/paragraph given below. From the pairs of words given, choose the one that fills the gaps most appropriately.

On the other hand, some writers have expressed that a few publishing houses refuse to publish women writers whose works are, as they are described, "not bold enough", that is they are not sensational enough to the market.

- (a) concern, stimulate (b) disquiet, titillate
 (c) anxiety, manoeuvre (d) apprehension, excite

48. Given below are sets of four sentences that form part of a paragraph. Arrange the four sentences so that the given sentences constitute a coherent paragraph.

- (A) What came out was very large garland made out of currency notes?
 (B) The unsuspecting governor opened the box in full view of the gathering
 (C) When the RBI governor came to inaugurate the new printing press, the local unit of the BJP handed him a gift wrapped box
 (D) There was a twist - the notes were all as tattered as notes could get

- (a) DACB (b) CABD (c) CBAD (d) DCAB

49. In the question, there are four sentences or parts of sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that is/are incorrect in terms of grammar and usage. Then, choose the most appropriate option.

- (A) The finding suggests some cases of the disease could be caused by the immune system running amok and attacking healthy tissues or failing to fight infection that leave people susceptible to the condition.
 (B) The study is the first to use evidence from the human genome to confirm the long-held suspicion that the immune system plays role in the disease.
 (C) "People have speculated about a link between the immune system and Parkinson's disease for sometime and this study suggests that a link is real", said Cyrus Zabetian.
 (D) Parkinson's disease is caused by steady dying-off of brain cells that produce a chemical called dopamine.

- (a) A and D (b) B and C (c) Only D (d) Only C

50. In the question, there are four sentences or parts of sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that is/are correct in terms of grammar and usage. Then, choose the most appropriate option.
- (A) But the 'economic miracle' came to a juddering halt at the beginning of the 1990s when the property bubble bursted.
- (B) What followed was a decade in the doldrums and the country has never fully recovered.
- (C) Today, it faces deflation, an ageing and shrinking population and only minimal growth.
- (D) Economists also cited the figures as evidence that the global recovery was still facing strong headwind.
- (a) C and D (b) B and C (c) B, C and D (d) A and C

Directions (51–54) Read the passage given below and answer questions that follow based on the information given in the passage.

First AOL and Time Warner announced their intention to combine. Then came Time Warner/EMI and Tribune/ Times Mirror. Even more significant, however, has been the speculation that these mergers have caused: If these transactions are consummated, a large number of additional media mergers are expected. There is even the possibility of a nightmare scenario—a wave of media mergers so large that within a decade most of our information will be supplied by perhaps six of these huge conglomerates and a fringe of much smaller firms.

It's time to ask two critical questions. Is this kind of media oligopoly what we, as a society, want? And if not, can the anti-trust laws effectively prevent the threatened merger wave? The answer to the first question is clear. We do not want a media oligopoly. The answer to the second question, however, is far less certain. We should distrust a media oligopoly because it would give undue control to a small number of individuals. This need not manifest itself in a price rise for the daily newspaper or AOL's monthly fee. Rather, it could consist of a change in editorial viewpoints, a shift in the relative prominence of links to certain websites or a decision not to cover certain topics, because they are not 'newsworthy'. These problems could exist without any improper intent on the part of the media barons. Even if they try to be fair and objective, they will necessarily bring their own worldview to the job. And in time some of these conglomerates may be controlled by people who are not fair or objective.

At first, it might appear that the anti-trust laws can be of little help in grappling with the issues presented by large media mergers. The anti-merger laws are commonly understood as protecting price competition, and a relatively small number of firms—to greatly oversimplify, let's say at most half a dozen—are normally thought to be enough to keep a market price-competitive. In industry after industry firms merge until there is only a handful left, and the antitrust enforcers are normally unable to do anything to prevent this. (In former years, mergers were governed by an 'incipiency' standard that prevented mergers and merger waves well before they would have led to very large or likely anti-competitive problems). Even if a handful of firms are enough to insure effective competition in most industries, would six conglomerate media firms be sufficient for the diversity of viewpoints necessary to democracy? Would we be reassured if they could somehow guarantee that they would sell their magazines and Internet advertisements at competitive prices?

I am hopeful that the anti-trust laws, if correctly and vigorously interpreted, are adaptable enough to meet this challenge. This is because anti-trust is not exclusively about price. It is essentially about choice—about giving consumers a competitive range of options in the marketplace so that they can make their own, effective selection from the market's offerings. Consumers should be able to make their choices along any dimension important to them—including price, variety and editorial viewpoint.

Communications media compete in part by offering independent editorial viewpoints and an independent gatekeeper function. Six media firms cannot effectively respond to the demand for choice or diversity competition by extending their product lines, because new media products will inevitably bear, to some degree, the perspective of their corporate parent. For these reasons, competition in terms of editorial viewpoint or gate-keeping can be guaranteed only by insuring that a media market contains a significantly larger number of firms than is required for price competition in other, more conventional markets.

It is unclear, however, whether this interpretation of the anti-trust laws will be applied by the enforcement agencies and the courts. What is needed, therefore, is a much more careful look at the challenges that will be raised by future media mergers.

This could best be accomplished if Congress created a Temporary Committee to Study Media Mergers and Media Convergence. This committee could include members of Congress; the heads of the Federal Trade Commission, the Federal Communications Commission and the Justice Department's anti-trust division; CEOs of media companies; and representatives of consumer groups. The committee would identify problems that may be caused by large media mergers and by media convergence. If the committee concludes that existing anti-trust laws are inadequate, it should recommend to Congress that new anti-merger legislation be enacted. This may be the only way to prevent the nightmare scenario of a media oligopoly.

51. A wave of media mergers could

- (a) be a threat to democracy
- (b) result in limiting editorial viewpoints
- (c) result in misuse of certain laws
- (d) Both (a) and (b)

52. According to the passage, what could be the most significant outcome of media oligopoly?

- (a) An increase in the cost of newspapers
- (b) The fact that in the long run, there will be a shift of power to people who might not be balanced and fair in the way they deal with the media
- (c) Certain websites may get more prominence than others
- (d) There will be no competition among the newspapers

53. Which of the following statements, according to the author, are true?

- (A) Half a dozen firms are enough to keep the market price-competitive
 - (B) Half a dozen companies are not enough to provide a democratic media
 - (C) Enforcement agencies may not interpret the anti-trust laws correctly
 - (D) Half a dozen companies will be inadequate to meet the consumer demand for product diversity
- (a) A, B (b) A, B, C (c) A, B, C, D (d) B, C, D

54. To get a clear picture of the challenges posed by media mergers, the author recommends

- (a) creation of strict laws
- (b) strengthening the enforcement agencies
- (c) creation of a study committee by the Congress
- (d) None of the above

Directions (55–58) Read the passage given below and answer questions that follow based on the information given in the passage.

One major obstacle in the struggle to lower carbon dioxide emissions, which are believed to play a role in climate change, is the destruction of tropical rainforests. Trees naturally store more carbon dioxide as they age, and the trees of the tropical rain forests in the Amazon, for example, store an average of 500 tonnes of carbon dioxide per hectare (10,000 square miles). When such trees are harvested, they release their carbon dioxide into the atmosphere. This release of carbon dioxide through the destruction of tropical forests, which experts estimate accounts for 20% of global carbon dioxide emissions annually, traps heat in the earth's atmosphere, which leads to global warming.

The Kyoto treaty set forth a possible measure to curtail the rate of deforestation. In the treaty, companies that exceed their carbon dioxide emission limits are permitted to buy the right to pollute by funding reforestation projects in tropical rainforests. Since forests absorb carbon dioxide through photosynthesis, planting such forests helps reduce the level of atmospheric carbon dioxide, thus balancing out the companies' surplus of carbon dioxide emissions. However, attempts at reforestation have so far been unable to keep up with the alarming rate of deforestation, and it has become increasingly clear that further steps must be taken to curtail deforestation and its possible deleterious effects on the global environment.

One possible solution is to offer incentives for governments to protect their forests. While this solution could lead to a drastic reduction in the levels of carbon dioxide, such incentives would need to be tied to some form of verification, which is extremely difficult, since most of the world's tropical forests are in remote areas, like Brazil's Amazon basin or the island of New Guinea, which makes on-site verification logistically difficult. Furthermore, heavy cloud cover and frequent heavy rain make conventional satellite monitoring difficult.

Recently, scientists at the Japan Aerospace Exploration Agency have suggested that the rates of deforestation could be monitored using new technology to analyse radar waves emitted from a surveillance satellite. By analysing multiple radar microwaves sent by a satellite, scientists are able to prepare a detailed, high resolution map of remote tropical forests. Unlike photographic satellite images, radar images can be measured at night and during days of heavy cloud cover and bad weather.

Nevertheless, critics of government incentives argue that radar monitoring has been employed in the past with little success, citing the Global Rainforest Mapping Project which was instituted in the mid 1990s amid concern over rapid deforestation in the Amazon. However, the limited data of the Mapping Project was due only to the small amount of data that could be sent from the satellite. Modern satellites can send and receive 10 times more data than their predecessors of

the mid 1990s, obviating past problems with radar monitoring. Furthermore, recent technological advances in satellite radar that allow for more accurate measurements to be made, even in remote areas, make such technology a promising step in monitoring and controlling global climate change.

55. Which one of the following most accurately expresses the main point of the passage?
- (a) Although scientists continue to search for a solution, there is, as yet, no good solution for the problem of rain forest deforestation
 - (b) One major obstacle to lessening the contribution of atmospheric carbon dioxide caused by deforestation may be removed through satellite radar monitoring
 - (c) Recent increases in the rate of deforestation of tropical rainforests have caused serious concern and spurred efforts to curb such deforestation
 - (d) Although an excellent first step, the solutions set forth by the Kyoto treaty will not significantly curb the rate of deforestation unless companies begin to lessen their carbon dioxide emissions
56. It can be inferred from the passage that photographic satellite images
- (a) are impervious to bad weather
 - (b) cannot be used efficiently at night
 - (c) are less expensive than radar monitoring
 - (d) can send only a small amount of data from a satellite to a base
57. Which one of the following most accurately describes the author's attitude toward radar monitoring as expressed in the passage?
- (a) Wary skepticism
 - (b) Cautious ambivalence
 - (c) Grudging respect
 - (d) Reasoned optimism
58. The information presented in the passage implies which one of the following about the Mapping Project?
- (a) The project was unsuccessful because it used only satellite radar monitoring
 - (b) If the satellite had been able to send more data, the project may have been successful
 - (c) It was established by the Kyoto treaty in response to widespread concern over deforestation
 - (d) The project used only conventional satellite monitoring and on-site verification visits

Directions (59–60) Given below are sets of four sentences that form part of a paragraph. Arrange the four sentences so that the given sentences constitute a coherent paragraph.

59. (A) 1971 war changed the political geography of the subcontinent
(B) Despite the significance of the event, there has been no serious book about the conflict
(C) Surrender at Dhaka aims to fill this gap
(D) It also profoundly altered the geo-strategic situation in South-East Asia
- (a) ACBD (b) GADB (c) BADC (d) ADBC
60. (A) Thus begins the search for relief: painkillers, ice, yoga, herbs, even surgery
(B) Most computer users develop disorders because they ignore warnings like tingling fingers, a numb hand or a sore shoulder
(C) They keep pointing and dragging until tendons chafe and scar tissue forms, along with bad habits that are almost impossible to change.
(D) But cures are elusive, because repetitive injuries present a bag of ills that often defy easy diagnosis.
- (a) BDAC (b) BADC (c) BCAD (d) ABCD