

## Quantitative Aptitude

This section contains 20 questions

1.  $p \propto q$ ,  $q \propto \frac{1}{s}$ ,  $s \propto \frac{1}{r}$ .

$p = 1$ , when  $q = 2$ ,  $q = 3$ ; when  $s = 4$ ,  $s = 4$ ; when  $r = 5$ . Find  $r$ , when  $p = 6$ .

- (a) 35 (b) 30 (c) 20 (d) 16

2. If  $\frac{a^2 - ab + b^2}{a^2 + ab + b^2} = \frac{1}{3}$ , then find  $\frac{a}{b}$ .

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

3. Coordinates of the points  $X$ ,  $Y$  and  $Z$  are  $X \equiv (6, 4)$ ,  $Y \equiv (-3, 5)$  and  $Z \equiv (2, -4)$ . Find the coordinates of a point which divides the medians from all the three vertices in the ratio 2 : 1.

- (a)  $\left(\frac{5}{3}, \frac{5}{3}\right)$  (b)  $\left(\frac{5}{3}, \frac{5}{2}\right)$  (c)  $\left(\frac{7}{4}, \frac{3}{2}\right)$  (d) Data insufficient

4. In  $\triangle LMN$ ,  $LO$  is the median. Also,  $LO$  is the bisector of  $\angle MLN$ . If  $LO = 3$  cm and  $LM = 5$  cm, then find the area of  $\triangle LMN$ .

- (a) 12 sq cm (b) 10 sq cm (c) 4 sq cm (d) 6 sq cm

5. What is the remainder when  $7^{74} - 5^{74}$  is divided by 4?

- (a) 0 (b) 1 (c) 2 (d) None of these

6. A shopkeeper gives two successive discounts of 10% and 20% on a marked price of Rs 5000 of a bicycle. He had to give a further discount equal to 20% of his cost price on his new selling price, as a result of which he made neither a profit nor a loss. Find his cost price for the bicycle.

- (a) Rs 2000 (b) Rs 3000 (c) Rs 3600 (d) Rs 4500

7. Find the remainder when  $a^3 - 5a^2 + 7a - 9$  is divided by  $a^2 + a - 6$ .

- (a)  $19a - 31$  (b)  $19a - 38$  (c)  $19a - 49$  (d)  $19a - 45$



8. If the roots of the quadratic equation  $y^2 + My + N$  are equal to  $N$  and  $M$ , then find the possible number of pairs of  $(M, N)$ .
- (a) 0 (b) 1 (c) 2 (d) 3
9. A garland is to be made from six different flowers and a large pendant which has two different faces. In how many ways can the garland be made?
- (a) 240 (b) 600 (c) 720 (d) None of these
10. The difference between the time taken by two cars to travel a distance of 350 km is 2 h 20 min. If the difference between their speeds is 5 km/h then the speed of faster car is
- (a) 30 km/h (b) 35 km/h (c) 40 km/h (d) 45 km/h
11. What is the present worth of a house which would be worth Rs 50000 after 3 years, if it depreciates at the rate of 10%?
- (a) Rs 35765.74 (b) Rs 67560.74 (c) Rs 67655.74 (d) Rs 68587.10
12. If  $x$ ,  $y$ , and  $z$  are in harmonic progression, which of the following statement(s) is/are true?
- I.  $x = \frac{y(x+z)}{2z}$       II.  $x = \frac{z(x-y)}{y-z}$       III.  $x = \frac{y-z}{x-z}$
- (a) I only (b) I and II  
(c) II only (d) II and III
13. In a T-shirt stitching factory, the accepted pieces on Friday were 95% of the total production and rejected pieces on Saturday were 10% of the total production. The overall rejection rate for the two days combined works out to 8.33%. What was the ratio of production of Friday to production of Saturday?
- (a) 1 : 2 (b) 2 : 1 (c) 1 : 3 (d) 1 : 1.75
14. The circumference of a cylinder is 3 feet and its height is 16 feet. An insect climbs the pole such that its motion is a spiral and one complete spiral helps it to cover 4 feet in height. Thus, when the insect reaches the top, what is the total distance covered by it?
- (a) 16 feet (b) 18 feet (c) 20 feet (d) 25 feet
15. Five persons entered the lift cabin on the ground floor of an seven storied building. Suppose that each of them independently and with equal probability, can leave the cabin at any floor beginning with the first. What will be the probability of all the five persons leaving at different floors?
- (a) 0.02 (b) 0.15 (c) 0.37 (d) 0.38
16. Hema is fond of shopping, she took nearly Rs 15 with her in the form of one rupee notes and 20 paise coins. When she came back, she had as many one rupee notes as she originally had 20 paise coins and as many 20 paise coins as she originally had one rupee notes. The total amount was also reduced by two-thirds. How much did she spend?
- (a) Rs 4.28 (b) Rs 9.30 (c) Rs 9.60 (d) Rs 10.20
17. A calculator has two memory buttons- $P$  and  $Q$ . Value 1 is initially stored in both memory locations. The following sequence of steps is carried out five times:
- (i) Add 1 to  $Q$       (ii) Multiply  $P$  and  $Q$   
(iii) Store the result in  $P$
- What is the value stored in memory location  $P$  after this procedure?
- (a) 120 (b) 450 (c) 600 (d) 720
18. A manager is not used to work in the decimal system. She says that there are 100 employees in the office of which 24 are males and 32 are females. Which number system does the manager use?
- (a) 4 (b) 6 (c) 8 (d) 16



19.  $N$ , the set of natural numbers, is divided into subsets  $A_1 = (1)$ ,  $A_2 = (2, 3)$ ,  $A_3 = (4, 5, 6)$ ,  $A_4 = (7, 8, 9, 10)$  and so on. What is the sum of the elements of the subset  $A_{50}$ ?

(a) 42455 (b) 61250 (c) 62525 (d) 65525

20. Suppose that an equal number of persons are born on each day. What will be the percentage of persons whose birthday will fall on 29th February?

(a) 0.741 (b) 0.273 (c) 0.068 (d) None of these

## Section II

### Data Interpretation & Critical Reasoning

This section contains 20 questions

**Direction (Q. 21–22) :** Study the table carefully and answer the following questions.

Number of washing machines and refrigerator manufactured by a company

	2005	2006	2007	2008	2009
Washing machine	14400	20500	12800	16400	18600
Refrigerator	12800	24700	19200	20200	14900

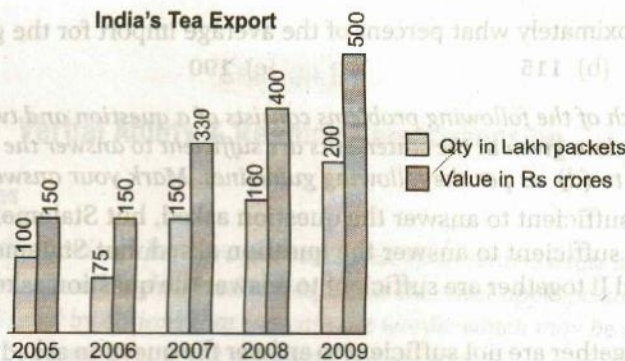
21. Approximately what was the percentage decrease in number of refrigerators manufactured in 2007 from 2006?

(a) 22 (b) 26 (c) 28 (d) 30

22. What was the difference in the total number of washing machines and refrigerators manufactured in 2006 to the total number of washing machines and refrigerators manufactured in 2008?

(a) 6800 (b) 5600 (c) 8600 (d) 8200

**Direction (Q. 23–27) :** Study the graph carefully and answer the following questions.



23. In which year the value per packet was minimum?

(a) 2005 (b) 2006 (c) 2007 (d) 2008

24. What was the difference between the packets exported in 2007 and 2008?

(a) 10 (b) 1000 (c) 100000 (d) 1000000

25. What was the approximate percent increase in export value from 2005–2009?

(a) 350 (b) 330 (c) 43 (d) None of these

26. What was the percentage drop in export quantity from 2005–2006?

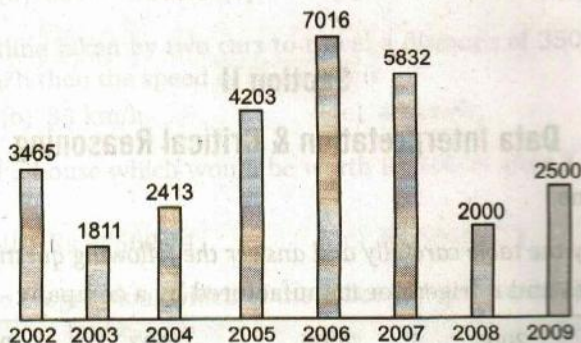
(a) 75 (b) 25 (c) 50 (d) None of these



27. If in the year 2008, the packets were exported at the same rate per packet as that in 2007, what was value in crores of rupees of export in 2008?
- (a) 400 (b) 352 (c) 375 (d) 360

**Direction (Q. 28–32) :** Study the graph carefully and answer the following questions.

**Data regarding import of Auto Spare parts**



28. In which year did the import register highest increase over its preceding year?
- (a) 2004 (b) 2005 (c) 2006 (d) 2009
29. The import in 2007 was approximately how many times that of the year 2003?
- (a) 0.31 (b) 1.68 (c) 2.41 (d) 3.22
30. What is the ratio of the years which have above average import to those which have below average imports?
- (a) 5 : 3 (b) 8 : 3 (c) 3 : 8 (d) None of these
31. The increase in imports in 2009 was what percent of the import in 2008?
- (a) 25 (b) 5 (c) 125 (d) 80
32. The import in 2005 is approximately what percent of the average import for the given years?
- (a) 125 (b) 115 (c) 190 (d) 85

**Direction (Q. 33–36) :** Each of the following problems consists of a question and two Statements labelled (I) and (II). You must decide whether the data given in the statements are sufficient to answer the question. Using the data, mark the appropriate option from (a) to (d) as per the following guidelines. Mark your answer as:

- (a) If Statement I alone is sufficient to answer the question asked, but Statement II alone is not.  
 (b) If Statement II alone is sufficient to answer the question asked, but Statement I alone is not.  
 (c) If both Statements I and II together are sufficient to answer the question asked, but neither statement alone is sufficient.  
 (d) If Statements I and II together are not sufficient to answer the question asked and additional data is needed.
33. What is the area of the parallelogram PQRS in which the diagonal QS is 12 cm?  
**Statement I** The perpendiculars from R and S to PQ are equal.  
**Statement II** The perpendicular from P on QS is of length 8 cm.
34. Sneha borrowed a certain amount at compound interest and returned the amount with interest in two equal installments. What was the amount borrowed?  
**Statement I** The rate of interest was 10% per annum.  
**Statement II** Each installment was Rs 1210.
35. If  $a$  and  $b$  are non-negative numbers, is  $(a + b)$  greater than  $ab$ ?  
**Statement I**  $a = b$ .



36. Is the average of the largest and the smallest of four given numbers greater than the average of the four numbers?

**Statement I** The difference between the largest and the second largest numbers is greater than the difference between the second smallest and the smallest numbers.

**Statement II** The difference between the largest and the second largest numbers is less than the difference between the second largest and the second smallest numbers.

**Direction (Q. 37–40) :** Answer the questions on the basis of the information given below.

Ten persons namely, Litesh, Pawan, Nitu, Parul, Dinesh, Sheema, Anil, Dharam, Dolly and Sheela go for a magic show and they all sit on a single row of seats numbered 1 to 10. There are three couples in the group. Each couple has only one child, the child always sits next to its mother. A family (father, mother and child) always sit together. Sheela, Dolly, Parul, and Sheema are females whereas Litesh, Pawan, Nitu, Dinesh and Dharam are males.

(1) Dinesh sits on seat number 6 which is immediately next to Nitu's mother's seat.

(2) Sheela sits on a seat whose number is both a perfect square and a perfect cube.

(3) Dharam is Dolly's father and they both sit on prime numbered seats.

(4) Litesh, the bachelor sits next to Pawan.

(5) The children are Nitu, Dolly and Dinesh.

37. Who is Dinesh's mother, if the person sitting two places away from the person sitting immediately next to Nitu is Parul?

- (a) Sheema (b) Sheela (c) Parul (d) Can't be determined

38. Who is sitting five places to the left of the person who is sitting two places to the left of Dharam's wife?

- (a) Litesh (b) Pawan (c) Nitu (d) Can't be determined

39. What is Anil's seat number?

- (a) 4 (b) 5 (c) 9 (d) 10

40. Who is sitting to the immediate right of Litesh?

(Use data from previous questions, if necessary)

- (a) Dolly (b) Dharam (c) Pawan (d) No body

### Section III

### Verbal Ability & Reading Comprehension

This section contains 20 questions

**Direction (Q. 41–42) :** In each question, there are five sentences. Each sentence has a pair of words that are italicized and highlighted. From the italicized and highlighted words, select the most appropriate words (A or B) to form correct sentences. The sentences are followed by options that indicate the words, which may be selected to correctly complete the set of sentences. From the options given, choose the most appropriate one.

41. Heena wore a beautiful *broach* (A)/*brooch* (B) on the lapel of her jacket.

The last scene provided a *climactic* (A)/*climatic* (B) ending to the play.

In case I see you engaging in such *exceptional* (A)/*exceptionable* (B) behaviour, I will be forced to punish you.

I give my *consent* (A)/*assent* (B) to the surgical treatment.

He does not seem to be *adverse* (A)/*averse* (B) to helping me out.

- (a) BABAA (b) BABAB (c) BAAAB (d) ABABA

42. The ice cream served at the wedding had lots of *currents* (A)/*currants* (B) and nuts in it.

If you want to know more about the career option, please meet your *councillor* (A)/*counselor* (B).

I would like to *advic* (A)/*advise* (B) you about your insurance policy.



The minister is **obliged(A)/compelled(B)** to report regularly to a parliamentary board.

His analysis of the situation is far too **sanguine(A)/genuine(B)**.

- (a) BBABA (b) BBAAA (c) BBBBA (d) ABBAB

**Direction (Q. 43–45) :** In each of the following questions there are 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 (including spelling, punctuation and logical consistency). Then, choose the most appropriate option.

43. (A) It was a difficult situation and Manila was making pains to make it better.  
(B) Slowly her efforts bore fruits and things started improving.  
(C) What she learnt from this is that it is ideal for humans if reflection.  
(D) preceded action and precision of thought facilitated precision of behavior.  
(a) C only (b) B and C (c) A and B (d) A only
44. (A) So once a country is in recession,  
(B) the financial authority can, principally, move the economy  
(C) out of the slowdown-assuming  
(D) they know how to use a fiscal instrument in its most effective manner.  
(a) A only (b) C only (c) A and B (d) B, C and D
45. (A) It is sometimes told that  
(B) one should react in an impassioned manner and must refrain  
(C) a coup. And also, one must manage to bite back the ironic retort  
(D) on the tip of the tongue itself lest it might damage one's chance for success, all at once.  
(a) A only (b) C only (c) A and B (d) C and D

**Direction (Q. 46–47) :** Each of the following questions has a sentence with two blanks. Given below each question are five pairs of words. Choose the pair that best completes the sentence.

46. To make that claim, a large, longer-term, ..... trial would be needed, in which participants are ..... assigned to exercise or not, and are then followed for the development of chronic conditions such as cancer, heart disease or dementia.  
(a) innovative; communally (b) exigent; exploitedly  
(c) controlled; randomly (d) disingenuous; viciously
47. Meanwhile, Ways thinks that preoccupation with survival is preventing the U.S. from explaining its positive assets to the world, ..... thinking about what to do next, and ..... U.S. policies in key areas, to wit: U.S. military planners are forced to assume that the U.S. must suffer the first blow in any future war  
(a) scrutinizing ; believing (b) observers; conceding  
(c) observers; agreeing (d) crippling; straitjacketing

**Direction (Q. 48–49) :** In each of the questions a word 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.

48. Earn  
(a) His fair dealing earned our confidence.  
(b) She earned the reputation as a hard worker.  
(c) A savings account that earns interest on deposited funds, is a good investment.  
(d) He earned a mention in the news.
49. Round  
(a) A round of tear gas shells was fired to disperse the crowd.  
(b) I met her round the corner.  
(c) The doctor is on a hospital round.  
(d) I shall not come round to admitting it.



**Direction (Q. 50–52) :** Each of the following questions has a paragraph from which a question is being asked. From the given options, choose the option that answers the question in the most appropriate way.

50. Lycopene, glutathione, and glutamine are powerful antioxidants that neutralize the free radicals that are produced in the body as a result of routine bodily processes. An excess of these free radicals in your system causes rapid aging because they accelerate the rate of cellular damage. Aging is simply the result of this damage. Thus, to slow down aging it is necessary to supplement your diet with these antioxidants on a daily basis.
- Which of the following, if true, most seriously undermines the author's contention?
- (a) Most persons aren't concerned with the effects of aging until it is too late to do anything.
  - (b) Exercise associated with normal daily activities effectively neutralizes and dissipates the free radicals that are produced as a result of routine bodily processes.
  - (c) The cost of antioxidants is exorbitantly high and well beyond the budget of most consumers.
  - (d) Only overweight people who do not exercise on a daily basis are likely to have an excess of free radicals in their systems.

51. Is it wrong for doctors to lie about their patients' illnesses? Aren't doctors just like any other people we hire to do a job for us? Surely, we would not tolerate not being told the truth about the condition of our automobile from the mechanic we hired to fix it, or the condition of our roof from the carpenter we employed to repair it. Just as these workers would be guilty of violating their good faith contracts with us if they were to do this, doctors who lie to their patients about their illnesses violate these contracts as well, and this is clearly wrong.

The conclusion of the argument is best expressed by which of the following?

- (a) Doctors who lie to their patients about their illnesses violate their good faith contracts with their patients.
- (b) Doctors often lie to their patients about their illnesses.
- (c) Doctors are just hired workers like mechanics and carpenters.
- (d) It is wrong for doctors to lie about their patients' illnesses.

52. The Japanese economic model created strong domestic industries through subsidies from its Ministry of Trade and by closing off competitive foreign firms to its domestic market. This strategy promised to help economic growth by incubating domestic industries. New Japanese industries could count on a known local demand and would be protected from competition by tariffs and other barriers. The program could reduce the amount of imports and therefore improve the nation's balance of trade.

Which of the following, based on the passage above, is a weakness in this economic strategy?

- (a) A protectionist policy will create animosity among other nations.
- (b) Fast growth of small industries will create a class of millionaires and increase the inequality of income.
- (c) Subsidies and import constraints keep domestic prices high and impose a burden on consumers.
- (d) Quotas are more regressive than tariffs.

**Questions (53–55) are based on the following passage:**

In an unfinished but highly suggestive series of essays, the late Sarah Eisenstein has focused attention on the evolution of working women's values from the turn of the century to the First World War. Eisenstein argues that turn-of-the-century women neither wholly accepted nor rejected what she calls the dominant "ideology of domesticity," but rather took this and other available ideologies—feminism, socialism, trade unionism—and modified or adapted them in light of their won experiences and needs. In thus maintaining that wages-work helped to produce a new "consciousness" among women, Eisenstein to some extent challenges the recent, controversial proposal by Leslie Tentler that for women the work experience only served to reinforce the attractiveness of the dominant ideology. According to the Tentler, the degrading conditions under which many female wage earners worked made them view the family as a source of power and esteem available nowhere else in their social world. In contrast, Eisenstein's study insists that wage-work had other implications for women's identities and consciousness. Most importantly, her work aims to demonstrate that wage-work enabled women to become aware of themselves as a distinct social group capable of defining their collective circumstance. Eisenstein insists that as a group working-class women were not able to come to collective consciousness of their



situation until they began entering the labor force, because domestic work tended to isolate them from one another.

Unfortunately, Eisenstein's unfinished study does not develop these ideas in sufficient depth or detail, offering tantalizing hints rather than an exhaustive analysis. Whatever Eisenstein's overall plan may have been, in its current form her study suffers from the limited nature of the sources she depended on. She uses the speeches and writings of reformers and labor organizers, who she acknowledges were far from representative, as the voice of the typical woman worker. And there is less than adequate attention given to the differing values of immigrant groups that made up a significant proportion of the population under investigation. While raising important questions, Eisenstein's essays do not provide definitive answers, and it remains for others to take up the challenges they offer.

53. It can be inferred from the passage that, in Eisenstein's view, working women at the turn of the century had which of the following attitudes toward the dominant ideology of their time?
- They resented the dominant ideology as degrading.
  - They preferred the dominant ideology to other available ideologies.
  - They began to view the dominant ideology to other available ideologies.
  - They accepted some but not all aspects of the dominant ideology.
54. Which of the following best describes the organization of the first paragraph of the passage?
- A chronological account of a historical development is presented, and then future developments are predicted.
  - A term is defined according to several different schools of thought, and then a new definition is formulated.
  - A theory is presented, an alternative viewpoint is introduced, and then the reasoning behind the initial theory is summarized.
  - A tentative proposal is made, reasons for and against it are weighed, and then a modified version of the proposal is offered.
55. Which of the following would the author of the passage be most likely to approve as a continuation of Eisenstein's study?
- An oral history of prominent women labor organizers
  - An analysis of letters and diaries written by typical female wage earners at the turn of the century
  - An assessment of what different social and political groups defined as the dominant ideology in the early twentieth century
  - A theoretical study of how socialism and feminism influenced one another at the turn of the century

**Questions (56–57) are based on the following passage:**

Neotropical coastal mangrove forests are usually "zonal," with certain mangrove species found predominantly in the seaward portion of the habitat and other mangrove species on the more landward portions of the coast. The earliest research on mangrove forests produced descriptions of species distribution from shore to land, without exploring the causes of the distributions.

The idea that zonation is caused by plant succession was first expressed by J. H. Davis in a study of Florida mangrove forests. According to Davis' scheme, the shoreline is being extended in a seaward direction because of the "land-building" role of mangroves, which, by trapping sediments over time, extend the shore. As a habitat gradually becomes more inland as the shore extends, the "land-building" species are replaced. This continuous process of accretion and succession would be interrupted only by hurricanes or storm flushings.

Recently the universal application of Davis's succession paradigm has been challenged. It appears that in areas where weak currents and weak tidal energies allow the accumulation of sediments, mangroves will follow land formation and accelerate the rate of soil accretion; succession will proceed according to Davis's scheme. But on stable coastlines, the distribution of mangrove species results in other patterns of zonation; "land building" does not occur.

To find a principle that explains the various distribution patterns, several researchers have looked to salinity and its effects on mangrove. While mangroves can develop in fresh water, they can also thrive in salinities as high as



2.5 times that of seawater. However, those mangrove species found in freshwater habitats do well only in the absence of competition, thus suggesting that salinity tolerance is a critical factor in competitive success among mangrove species. Research suggests that mangroves will normally dominate highly saline regions, although not because they require salt. Rather, they are metabolically efficient (and hence grow well) in portions of an environment whose high salinity excludes plants adapted to lower salinities. Tides create different degrees of salinity along a coastline. The characteristic mangrove species of each zone should exhibit a higher metabolic efficiency at that salinity than will any potential invader, including other species of mangrove.

56. According to the passage, the earliest research on mangrove forest produced which of the following?

- (a) Data that implied random patterns of mangrove species distribution
- (b) Descriptions of species distributions suggesting zonation
- (c) Descriptions of the development of mangrove forests over time
- (d) Reclassification of species formerly thought to be identical

57. It can be inferred from the passage that Davis' paradigm does NOT apply to which of the following?

- (a) The shoreline of Florida mangrove forests first studied by Davis
- (b) A shoreline in an area with weak currents
- (c) A shoreline in an area with weak tidal energy
- (d) A shoreline in which few sediments can accumulate.

**Questions (58–60) are based on the following passage:**

Modern manufacturers, who need reliable sources of materials and technologically advanced components to operate profitably, face an increasingly difficult choice between owning the producers of these items (a practice known as backward integration) and buying from independent producers. Manufacturers who integrate may reap short-term rewards, but they often restrict their future capacity for innovative product development.

Backward integration removes the need for some purchasing and marketing functions, centralizers overhead, and permits manufacturers to eliminate duplicated efforts in research and development. Where components are commodities (ferrous metals or petroleum, for example), backward integration almost certainly boosts profits. Nevertheless, because product innovation means adopting the most technologically advanced and cost-effective ways of making components, backward integration may entail a serious risk for a technologically active company—for example, a producer of sophisticated consumer electronics.

A company that decides to make rather than buy important parts can lock itself into an outdated technology. Independent suppliers may be unwilling to share innovations with assemblers with whom they are competing. Moreover, when an assembler sets out to master the technology of producing advanced components, the resulting demands on its resources may compromise its ability to assemble these components successfully into end products. Long-term contracts with suppliers can achieve many of the same cost benefits as backward integration without compromising a company's ability to innovate.

However, moving away from backward integration is not a complete solution either. Developing innovative technologies requires independent suppliers of components to invest huge sums in research and development. The resulting low profit margins on the sale of components threaten the long-term financial stability of these firms. Because the ability of end-product assemblers to respond to market opportunities depends heavily on suppliers of components, assemblers are often forced to integrate by purchasing the suppliers of components just to keep their suppliers in business.

58. According to passage, when an assembler buys a firm that makes some important component of the end product that the assembler produces, independent suppliers of the same component may

- (a) withhold technological innovations from the assembler.
- (b) experience improved profit margins of on sales of their products
- (c) lower their prices to protect themselves from competition
- (d) suffer financial difficulties and go out of business.



59. Which of the following best describes the way the last paragraph functions in the context of the passage?
- (a) The last in a series of arguments supporting the central argument of the passage is presented.
  - (b) A viewpoint is presented which qualifies one presented earlier in the passage.
  - (c) Evidence is presented in support of the argument developed in the preceding paragraph.
  - (d) Questions arising from the earlier discussion are identified as points of departure for further study of the topic.
60. According to the passage, which of the following relationships between profits and investments in research and development holds true for producers of technologically advanced components?
- (a) Modest investments are required and the profit margins on component sales are low.
  - (b) Modest investments are required but the profit margins on component sales are quite high.
  - (c) Despite the huge investments that are required, the profit margins on components sales are high.
  - (d) Because huge investments are required, the profit margins on component sales are low.