

Time : 2 hours

Maximum marks : 100

Name of the  
Candidate : .....

Examination  
Centre : .....

Regn. Number : 

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Signature of  
the Candidate : .....

### INSTRUCTIONS TO CANDIDATES

1. Do not open the Question Book until the Hall Superintendent gives the signal for the commencement of the examination.
2. Write your Name, your Registration Number and the Name of your Examination Centre (as found in the HALL TICKET) and sign in the space provided above. Other than these and what is mentioned in item 6 below, do not write or mark anything anywhere on the Question Book.
3. After the commencement of the examination, open the Question Book and take out the ANSWER SHEET. If the Question Book or the Answer Sheet is not in good condition then ask for immediate replacement. No replacement will be made 5 minutes after the commencement of the examination.
4. Write and shade your Registration Number and Question Book Number and write the Name of the Examination Centre and put your signature in the Answer Sheet in the spaces provided.
5. The Question Book contains 100 questions. Answer all the questions. They carry equal marks.
6. The last few pages of the Question Book are blank except for the words 'FOR ROUGH WORK'. You can make any relevant rough calculations on these pages.
7. **Each correct answer carries 1 mark. For every wrong answer  $\frac{1}{3}$  mark will be deducted.**
8. Shade with black ball point pen one of the four options against each question number in the Answer Sheet which according to you corresponds to the correct answer.
9. **Answers with multiple shading will be considered as wrong answer.**
10. Use the Answer Sheet carefully. No spare Answer Sheet will be given.
11. At the end of the examination when the Hall Superintendent announces 'Stop Writing', you must **stop writing immediately** and handover the Answer sheet to Hall Superintendent
12. When you have completed answering, stand up and remain in your place. The Hall Superintendent will come to you and collect your Answer Sheet. Under no circumstances should be taken out of the Examination Hall. No candidate shall leave the Hall until the Answer Sheet is collected.
13. No candidate can leave the Hall during the first 30 minutes and the last 15 minutes of the examination.
14. No candidate can re-enter the Hall after leaving.
15. Calculator, tables or any other calculating devices and cell phone are strictly prohibited for this examination.

## MBR 23

### SECTION – I

**DIRECTIONS:** The questions that follow relate to the preceding passage. Evaluate, in terms of the passage, each of the items given. Then select your answer from one of the following classifications.

- (a) A MAJOR OBJECTIVE in making the decision: one of the goals sought by the decision maker.
- (b) A MAJOR FACTOR in making the decision: an aspect of the problem, specifically mentioned in the passage, that fundamentally affects and/or determines the decisions.
- (c) A MINOR FACTOR in making the decision: a less important element bearing on or affecting a Major Factor, rather than a Major Objective directly.
- (d) A MAJOR ASSUMPTION in making the decision: a projection or supposition arrived at by the decision maker before considering the factors and alternatives.

### PASSAGE I

The XYZ Company, located in Kerala, had engaged exclusively in the making of traditional Pickles (Mango, Lemon, etc.) for the past seventy years. Sales were approximately 20 Crores annually. The sales volume had showed a decline of about 18 percent over the past decade. The company had a small office force and employed approximately 80 people in the production process. In 1995, distribution had been extended to Pan India as well as to other countries. Mr. Rakesh, the president, attributed this significant decrease in the market area due to severe competition.

Mr. Vimal, the sales manager, after studying the market closely, arrived at a different set of reasons why sales had been dropping. According to Mr. Vimal, Firstly, the sales to commercial consumers had reduced due to various reasons. Many modern commercial consumers bought the necessary raw materials and make their own pickles (Mango, lemon, etc.) at home. The second reason which Mr. Vimal considered significant was the growing popularity of ready mix Pickles in different varieties. The natural tendency of practically all human beings is to get as much as they can for a minimum of effort. Since ready-mix pickles did save housewives a good deal of labour, this type of product had been well received.

Mr. Vimal believed that the company could not cope with first factor, and therefore his suggestion for increasing sales was to branch out and manufacture ready mix pickle products which would compare favourably with nationally known brands. Management was particularly receptive to Vimal's idea because production of ready mix pickles would require only minor changes in personnel and the cost of additional machinery would be relatively small. Two additional machines were necessary each costing approximately 5 lakhs.

Mr. Rakesh was determined to succeed in the marketing of the new product. He believed that a thorough market analysis was a prerequisite to making a final decision as to whether Vimal's idea was commercially sound. Mr. Rakesh wanted to know whether a small company like XYZ could battle for a share of the ready -mix pickle market against much bigger competitors. His concern centered on two key variables. First, he questioned the ability of his marketing people to develop a product which would be sufficiently differentiated from competitors' product. XYZ would have to market a product which had some distinct advantage over competing products. This advantage could be in the form of an improvement over existing brands, for example, a mix that was easier to prepare. Second, a strong advertising campaign was necessary to enter market with an unknown product. Potential consumers would have to be made aware of the new brand and its advantages. Mr. Rakesh wanted to know how much such an advertising campaign would cost and whether the company had the financial resources to finance it. Vimal was given the task of preparing a marketing research report which would provide answer, to Rakesh's questions. Graduate students were hired to poll housewives as they entered supermarkets. Each student questioned a number of housewives about their purchases of ready mix pickles, how frequently they used the products, what they liked and or disliked about the mixes. After about fifty interviews, Vimal believed that he had collected enough information to reach certain conclusions. Vimal tabulated the research data and finds the following: Most housewives said that they purchased ready-mix pickles and preferred to prepare their own pickle, rather than buy them from shops.

Housewives felt that ready-mix pickles were preferable to commercially prepared pickle items because of their freshness and economy. In particular, respondents liked the convenience of being able to make in a contingency situation. Other reasons mentioned for preferring ready-mix pickles were: "Tastes fresh", modern thing to do," my neighbours use it" and "I can choose some of the ingredients. "Few respondents using ready-mix pickles mentioned some dislikes. Some of the negative reactions mentioned were: "Lack of pickle variety", "my husband doesn't like them", and "all the mixes are the same." Most of the housewives polled recalled seeing some advertising for ready-mix pickles during the past weeks. Half of the respondent recalled specific advertising themes of the major producers. Overall reaction to the advertising was favourable.

Examining the survey results, Vimal concluded that XYZ should market a ready mix pickle of its own. He reasoned that since consumer reaction was so favourable, there was room in the market for another brand. Vimal recommended, however, that since the research did not reveal how XYZ might differentiate its products from those already on the market, the best marketing strategy would be to charge a lower price than that of competing products. With a lower price, he asserted, XYZ's ready mix pickle would sell well to the economy-minded housewife.

Advertising was a problem. It was clear that, given the relatively small marketing budget available to Vimal's XYZ could not emulate the sort of advertising campaign used by existing ready-mix pickle makers. Vimal believed that if XYZ would concentrate solely on the economy-minded market segment, advertising themes could be developed and a campaign launched within the company's budget constraints. Vimal's report and conclusions were forwarded to Rakesh. After a short deliberation, Rakesh approved the ready-mix pickle project.

Without further investigation, the manufacture of XYZ's ready-mix pickle was started. After several months, ready-mix pickle sales is still amounted to less than 10 percent of gross sales, and 85 percent of ready-mix pickle sales were within Kerala. The entire position of the company was in jeopardy. Both Mr. Rakesh and Mr. Vimal were worried about the business, but neither seemed to know what to do.

Questions:

1. Production of a successful ready-mix pickle products.
2. Declining sales volume.
3. Cost of XYZ's advertising campaign.
4. Start-up costs for development of ready-mix pickle products.
5. Differentiation of XYZ's ready-mix pickle products from competing products.
6. Modern Commercial customers practice of producing their own pickle
7. XYZ's ability to compete with bigger companies
8. Market research findings.
9. Number of housewives interviewed for marketing survey.
10. Growing importance of ready-mix pickle.

## PASSAGE II

'Farm foods' is a company engaged in producing and selling of organic food products (millets, pulses, Organic drinks, Vegetables, fruits, etc.). It sustains in the consumer market for a long period and captured a good market share. Farm foods have a long standing, quality-oriented market place, market share and surviving with good monetary results. The factory is situated in Faridabad which is very far from the main consumer market and other bigger towns in the surrounding area. This distance from the main consumer market further attributed to higher cost of the product being marketed by Farm foods.

'Nature one' is another company started few years back and came up with its factory located near Narela., a few kilometres from the main capital town and other bigger towns in area. The organic foods products being produced by this company was more or less same in taste, flavours, as that of Farm food's

organic foods. In view of its proximity with the consumer cities, the transportation cost being incurred by the 'Nature one' is comparatively less. Furthermore, being a new enterprise, it has controlled overhead expenses. It is an advantage to their credit; they priced their organic foods little less than that of Farm Foods. In a short span of time, Nature one slowly penetrated into the market and gained market share of Farm Foods and took a slice of Farm Food's Business.

Farm Food is now faced the problem of competing with its new rivalry company Nature one without degrading the quality of the product. Farm Foods, however, cannot reduce the price of their product as it lowers the image of the company in the market and which in turn reduces the profit. The CEO of the company decided to conduct a detailed market survey and study all types of organic food products being marketed in the country. By examining competitors' products, the results of the survey reveals that the product being marketed by Farm Food is of high quality, quick consumption items having much longer shelf-life as compared to other products available in the market. The products were packed in tin containers. After the consumption of contents inside the tins it becomes scrap without any resale value. The CEO of Farm Food decided to make a pre-project study to identify different packaging options.

The study revealed that they can either go in for glass jars or flexi-packs or for both. As the product enjoys high quality and has a longer shelf life, it can withstand any climatic conditions in flexi-packs and thereby drastically reduce expenditures on packaging costs. The results also showed that the tin containers take 31% of the total cost of product. However, going by flexi-packs, the same can be reduced to nearly 20%. By this saving, packaging costs can be released to the customers by way of reducing the price of the product. Reduction in price will not lower the image of company as the price reduction is done with the background of change in packaging.

Questions:

11. Compete with the new company Nature one.
12. Nature one's organic foods are more or less the same in taste and flavour of Farm Foods.

13. Compete with Nature One without lowering market reputation
14. Transportation cost incurred by Nature one is comparatively less.
15. Market survey on all types of organic foods.
16. Savings made in packaging cost can be released to the consumers.
17. Farm Food's location is far away from the main consumer markets.
18. Nature one located close by main capital town and other bigger towns.
19. Cost saving in flexi-packs.
20. Reduction in price will not lower the image of the company.

## SECTION – II

### PASSAGE I

Prior to 1975, union efforts to organize public-sector clerical workers, most of whom are women, were somewhat limited. The factors favouring unionization drives seem to have been either the presence of large numbers of workers, as in New York City, to make it worth the effort, or the concentration of small numbers in one or two locations, such as a hospital, to make it relatively easy. Receptivity to unionization on the workers' part was also a consideration, but when there were large numbers involved or the clerical workers were the only unorganized group in a jurisdiction, the multi-occupational unions would often try to organize them regardless of the workers' initial receptivity. The strategic reasoning was based, first, on the concern that politicians and administrators might play off unionized against non-unionized workers, and, second, on the conviction that a fully unionized public work force meant power, both at the bargaining table and in the legislature. In localities where clerical workers were few in number, were scattered in several workplaces, and expressed no interest in being organized, unions more often than not ignored them in the pre-1975 period.



But since the mid-1970's, a different strategy has emerged. In 1977, 34 percent of government clerical workers were represented by a labour organization, compared with 46 percent of government professionals, 44 percent of government blue-collar workers, and 41 percent of government service workers. Since then, however, the biggest increases in public-sector unionization have been among clerical workers. Between 1977 and 1980, the number of unionized government workers in blue-collar and service occupations increased only about 1.5 percent, while in the white-collar occupations the increase was 20 percent and among clerical workers in particular, the increase was 22 percent.

What accounts for this upsurge in unionization among clerical workers? First, more women have entered the work force in the past few years, and more of them plan to remain working until retirement age. Consequently, they are probably more concerned than their predecessors were about job security and economic benefits. Also, the women's movement has succeeded in legitimizing the economic and political activism of women on their own behalf, thereby producing a more positive attitude toward unions. The absence of any comparable increase in unionization among private-sector clerical workers, however, identifies the primary catalyst—the structural change in the multi-occupational public-sector unions themselves. Over the past twenty years, the occupational distribution in these unions has been steadily shifting from predominantly blue-collar to predominantly white-collar. Because there are far more women in white-collar jobs, an increase in the proportion of female members has accompanied the occupational shift and has altered union policy-making in favour of organizing women and addressing women's issues.

Questions:

21. According to the passage, the public-sector workers who were most likely to belong to unions in 1977 were
  - a. professionals
  - b. managers
  - c. clerical workers
  - d. blue-collar workers
22. The author cites union efforts to achieve a fully unionized work force in order to account for why
  - a. public-sector unions have recently focused on organizing women
  - b. early organizing efforts often focused on areas where there were large numbers of workers
  - c. union efforts with regard to public-sector clerical workers increased dramatically after 1975
  - d. unions sometimes tried to organize workers regardless of the workers' initial interest in unionization



23. The author states that which of the following is a consequence of the women's movement of recent years?
- a. An increase in the number of women entering the work force
  - b. A structural change in multi-occupational public-sector unions
  - c. A more positive attitude on the part of women toward unions
  - d. An increase in the number of women in administrative positions
24. The main concern of the passage is to
- a. advocate particular strategies for future efforts to organize certain workers into labour unions
  - b. explain differences in the unionized proportions of various groups of public sector workers
  - c. analyze and explain an increase in unionization among a certain category of workers
  - d. describe and distinguish strategies appropriate to organizing different categories of workers
25. The author implies that if the increase in the number of women in the work force and the impact of the women's movement were the main causes of the rise in unionization of public-sector clerical workers, then
- a. more women would hold administrative positions in unions
  - b. there would be an equivalent rise in unionization of private-sector clerical workers
  - c. unions would have shown more interest than they have in organizing women
  - d. the increase in the number of unionized public-sector clerical workers would have been greater than it has been

## PASSAGE II

It was once believed that the brain was independent of metabolic processes occurring elsewhere in the body. In recent studies, however, we have discovered that the production and release in brain neurons of the neurotransmitter serotonin depend directly on the food that the body processes.

Our first studies sought to determine whether the increase in serotonin observed in rats given a large injection of the amino acid tryptophan might also occur after rats ate meals that change tryptophan levels in the blood. We found that, immediately after the rats began to eat, parallel elevations occurred in blood tryptophan, brain tryptophan, and brain serotonin levels. These findings suggested that the production and release of serotonin in brain neurons were normally coupled with blood-tryptophan increases. In later studies we found that injecting insulin into a rat's bloodstream also caused parallel elevations in blood and brain tryptophan levels and in serotonin levels. We then decided to see whether the secretion of the animal's own insulin similarly affected serotonin production. We gave the rats a carbohydrate-containing meal that we knew would elicit insulin secretion. As we had hypothesized, the blood tryptophan level and the concentrations of tryptophan serotonin in the brain increased after the meal.

Surprisingly, however, when we added a large amount of protein to the meal, brain tryptophan and serotonin levels fell. Since protein contains tryptophan, why should it depress brain tryptophan levels? The answer lies in the mechanism that provides blood tryptophan to the brain cells. This same mechanism also provides the brain cells with other amino acids found in protein, such as tyrosine and Leucine. The consumption of protein increases blood concentration of the other amino acids much more, proportionately, than it does that of tryptophan. The more protein in the meal, the lower is the ratio of the resulting blood-tryptophan concentration to the concentration of competing amino acids, and the more slowly is tryptophan provided to the brain. Thus, the more protein in a meal, the less serotonin subsequently produced and released.

Questions:

26. Which of the following titles best summarizes the contents of the passage?
- Neurotransmitters: Their Crucial Function in Cellular Communication
  - The Blood Supply and the Brain: A Reciprocal Dependence
  - Amino Acids and Neurotransmitters: The Connection Between Serotonin Levels and Tyrosine
  - The Effects of Food Intake on the Production and Release of Serotonin: Some Recent Findings
27. According to the passage, the speed with which tryptophan is provided to the brain cells of a rat varies with the
- amount of protein present in a meal
  - concentration of serotonin in the brain before a meal
  - concentration of leucine in the blood rather than on the concentration of tyrosine in the blood after a meal
  - concentration of tryptophan in the brain before a meal
28. According to the passage, one reason that the authors gave rats carbohydrates was to
- depress the rats' tryptophan levels
  - cause the rats to produce insulin
  - demonstrate that insulin is the most important substance secreted by the body
  - compare the effect of carbohydrates with the effect of proteins
29. According to the passage, the more protein a rat consumes, the lower will be the
- ratio of the rat's blood-tryptophan concentration to the amount of serotonin produced and released in the rat's brain
  - ratio of the rat's blood-tryptophan concentration to the concentration in its blood of the other amino acids contained in the protein
  - ratio of the rat's blood-tyrosine concentration to its blood-leucine concentration
  - number of neurotransmitters of any kind that the rat will produce and release

30. It can be inferred from the passage that which of the following would be LEAST likely to be a potential source of aid to a patient who was not adequately producing and releasing serotonin?
- a. Meals consisting almost exclusively of protein
  - b. Meals consisting almost exclusively of carbohydrates
  - c. Meals that would elicit insulin secretion
  - d. Meals that had very low concentrations of tyrosine

### PASSAGE III

Japanese firms have achieved the highest levels of manufacturing efficiency in the world automobile industry. Some observers of Japan have assumed that Japanese firms use the same manufacturing equipment and techniques as United States firms but have benefited from the unique characteristics of Japanese employees and the Japanese culture. However, if this were true, then one would expect Japanese auto plants in the United States to perform no better than factories run by United States companies. This is not the case; Japanese-run automobile plants located in the United States and staffed by local workers have demonstrated higher levels of productivity when compared with factories owned by United States companies.

Other observers link high Japanese productivity to higher levels of capital investment per worker. But a historical perspective leads to a different conclusion. When the two top Japanese automobile makers matched and then doubled United States productivity levels in the mid-sixties, capital investment per employee was comparable to that of United States firms. Furthermore, by the late seventies, the amount of fixed assets required to produce one vehicle was roughly equivalent in Japan and in the United States.

Since capital investment was not higher in Japan, it had to be other factors that led to higher productivity. A more fruitful explanation may lie with Japanese production techniques. Japanese automobile producers did not simply implement conventional processes more effectively: they made critical changes in United States procedures. For instance, the mass-production philosophy of United States automakers encouraged the production of huge lots of cars in order to utilize fully expensive, component-specific equipment and to occupy fully workers who have been trained to execute one operation efficiently. Japanese automakers chose to make small-lot production feasible by introducing several departures from United States practices, including the use of flexible equipment that could be altered easily to do several different production tasks and the training of workers in multiple jobs. Automakers

could schedule the production of different components or models on single machines, thereby eliminating the need to store the buffer stocks of extra components that result when specialized equipment and workers are kept constantly active.

Questions:

31. The author suggests that if the observers of Japan mentioned in were correct, which of the following would be the case?
- a. The equipment used in Japanese automobile plants would be different from the equipment used in United States plants.
  - b. Japanese workers would be trained to do several different production jobs.
  - c. The workers in Japanese-run plants would have higher productivity levels regardless of where they were located.
  - d. The production levels of Japanese-run plants located in the United States would be equal to those of plants run by United States companies.
32. Which of the following statements concerning the productivity levels of automakers can be inferred from the passage?
- a. Prior to the 1960's, the productivity levels of the top Japanese automakers were exceeded by those of United States automakers.
  - b. The culture of a country has a large effect on the productivity levels of its automakers.
  - c. The greater the number of cars that are produced in a single lot, the higher a plant's productivity level.
  - d. The amount of capital investment made by automobile manufacturers in their factories determines the level of productivity.
33. According to the passage, which of the following statements is true of Japanese automobile workers?
- a. Their high efficiency levels are a direct result of cultural influences.
  - b. They operate component-specific machinery.
  - c. They are trained to do more than one job.
  - d. They produce larger lots of cars than do workers in United States factories.

34. Which of the following statements is supported by information stated in the passage?
- a. Japanese and United States automakers differ in their approach to production processes.
  - b. Japanese automakers invest more capital per employee than do United States automakers.
  - c. United States-owned factories abroad have higher production levels than do Japanese owned plants in the United States.
  - d. Japanese automakers have benefited from the cultural heritage of their workers.
35. With which of the following predictive statement regarding Japanese automakers would the author most likely agree?
- a. United States automakers will originate new production processes before Japanese automakers do.
  - b. The efficiency levels of the Japanese automakers will decline if they become less flexible in their approach to production.
  - c. Japanese automakers will hire fewer workers than will United States automakers because each worker is required to perform several jobs.
  - d. Japanese automakers will spend less on equipment repairs than will United States automakers because Japanese equipment can be easily altered.

#### **PASSAGE IV**

Schools expect textbooks to be a valuable source of information for students. My research suggests, however, that textbooks that address the place of Native Americans within the history of the United States distort history to suit a particular cultural value system. In some textbooks, for example, settlers are pictured as more humane, complex, skillful, and wise than Native American.

In essence, textbooks stereotype and deprecate the numerous Native American cultures while reinforcing the attitude that the European conquest of the New World denotes the superiority of European cultures. Although textbooks evaluate Native American architecture, political systems, and homemaking, I contend that they do it from an ethnocentric, European perspective without recognizing that other perspectives are possible.

One argument against my contention asserts that, by nature, textbooks are culturally biased and that I am simply underestimating children's ability to see through these biases. Some researchers even claim that by the time students are in high school, they know they cannot take textbooks literally. Yet substantial evidence exists to the contrary. Two researchers, for example, have conducted studies that suggest that children's attitudes about particular culture are strongly influenced by the textbooks used in schools. Given this, an ongoing, careful review of how school textbooks depict Native American is certainly warranted.

Questions:

36. Which of the following would most logically be the topic of the paragraph immediately following the passage?
- a. Specific ways to evaluate the biases of United States history textbooks
  - b. The centrality of the teacher's role in United States history courses
  - c. Non-traditional methods of teaching United States history
  - d. The contributions of European immigrants to the development of the United States
37. The author mentions two researchers' studies most likely in order to
- a. suggest that younger children tend to interpret the messages in textbooks more literally than do older children
  - b. counter the claim that children are able to see through stereotypes in textbooks
  - c. demonstrate that textbooks carry political messages meant to influence their readers
  - d. prove that textbooks are not biased in terms of their political presentations
38. The author's attitude toward the content of the history textbooks discussed in the passage is best described as one of
- a. indifference
  - b. hesitation
  - c. neutrality
  - d. disapproval



39. It can be inferred from the passage that the researchers mentioned in line 19 would be most likely to agree with which of the following statements?
- a. Students form attitudes about cultures other than their own primarily inside the school environment.
  - b. For the most part, seniors in high school know that textbooks can be biased.
  - c. Textbooks play a crucial role in shaping the attitudes and beliefs of students.
  - d. Elementary school students are as likely to recognize biases in textbooks as are high school students.
40. The author implies that which of the following will occur if textbooks are not carefully reviewed?
- a. Children will remain ignorant of the European settlers' conquest of the New World.
  - b. Children will lose their ability to recognize biases in textbooks
  - c. Children will form negative stereotypes of Native Americans.
  - d. Children will develop an understanding of ethnocentrism.

### SECTION – III

41. Pooja wanted to sell her guitar at a discount of 9%. Her sister who was a guitarist wanted to buy the guitar, so Pooja sells it at a discount of 18%. In this deal, Pooja reduces Rs.450 in profit. What was the market value of the Guitar?
- a. Rs. 3,000
  - b. Rs. 3,500
  - c. Rs. 5,000
  - d. Rs. 4,500
42. An alloy contains Zinc, lead and iron in the ratio of 5:3:2, the quantity of iron (in Kg) that must be added to 150 kg of this alloy to have a new ratio 15:9:6 is 2?
- a. 5 kg
  - b. 10 kg
  - c. 20 kg
  - d. 15 kg
43. Anu's age after 15 years will be 5 times her age 5 years back. What is the present age of Anu?
- a. 12
  - b. 14
  - c. 22
  - d. 10

44. If 20% of  $x = y$ , then  $y\%$  of 20 is the same as:
- 4% of  $x$
  - 5% of  $x$
  - 20% of  $x$
  - None of the above
45. A person took loan from a Retail bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by the person was:
- Rs. 2,000
  - Rs. 10,000
  - Rs. 15,000
  - Rs. 20,000
46. To complete a certain task, A is 25% more efficient than B, and C is 25% less efficient than B. Working together, they can complete the task in 24 days. B and C together worked for 32 days. The remaining work will be completed by B alone with double its efficiency in:
- 8 days
  - 4 days
  - 6 days
  - 5 days
47. When both the roots of the quadratic equation  $x^2 + rx + s = 0$  are real and greater than 1. If  $R = (r + s + 1/s - r)$ , then which of the following is definitely true?
- $R=0$
  - $R<0$
  - $R>0$
  - Cannot be determined
48. In a race of 200 m run, X beats Y by 20 m and Z by 40 m. If Y and Z are running a race of 100 m with exactly same speed as before, then by how many metres will Y beat Z?
- 12
  - 11.11
  - 25
  - 10
49. Boxes numbered 1,2,3,4 and 5 are kept in a row, and they are to be filled with either a red or a blue ball, such that no two adjacent boxes can be filled with blue balls. Then how many different arrangements are possible, given that all balls of a given colour are exactly identical in all respects.
- 8
  - 10
  - 20
  - 13

50. A bought 5 pens, 7 pencils and 4 erasers. B bought 6 pens, 14 pencils and 8 erasers for an amount which was half more what A had paid. What per cent of the total amount paid by A was paid for the pens?
- a. 37.5  
c. 50
- b. 62.5  
d. None of the above
51. Find the number that can replace the question mark (?) in the following series:  
54, 56, 62, 74, 94, ?
- a. 115  
c. 124
- b. 114  
d. 126
52. There is a square field of side 500 m long each. It has a compound wall along its perimeter. At one of its corners, a triangular area of the field is to be cordoned off by erecting a straight-line fence. The compound wall and the fence will form its borders. If the length of the fence is 100 m, what is the maximum area that can be cordoned off?
- a. 2,500 sq m  
c. 10,000 sq m
- b. 5,000 sq m  
d. 20,000 sq m
53. The average age of 7 men is increased by 9 years when two of them whose ages are 60 and 54 years are replaced by 2 persons. What is the average age of the 2 persons?
- a. 90 years  
c. 87.5 years
- b. 88.5 years  
d. 88 years
54. Manoj buys a cricket bat for Rs. 1,950 in cash and sells it for Rs. 2,200 at a credit of 1 year. If the rate of interest is 10% per annum, then Manoj:
- a. Gains Rs. 45  
c. Loses Rs. 30
- b. Gains Rs. 30  
d. Gains Rs. 50
55. A motor boat can go 45 km upstream and 54 km downstream in 10.5 hrs., while it can go 54 km upstream and 45 km downstream in 11.5 hrs. The time taken by the boat is going 12 km upstream and 18 km downstream is:
- a. 3 h  
c. 4.5 h
- b. 4 h  
d. 5.4 h

56. M and N spend 80% and 70% of their incomes, respectively. If the savings of M are 25% more than that of N, then by what percentage is in the income of M more than the income of N

- a. 87.5                      b. 62.5  
c. 75                         d. 50

57. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

84	?	90
9	12	18
252	296	540

- a. 55    b. 50  
c. 74    d. 40

58. How many triangles are there in the given figure?



- a. 15    b. 12  
c. 13    d. 14

59. If  $4x^4 = 7x^2 - 1$ , then what is the value of  $(2x^2 - \sqrt{3x} - 5)$ ?

- a.  $-4$
- b.  $4$
- c.  $-2$
- d.  $2$

60. A shop has 3 colours of balls namely red, green, and white. The number of white ball is 62.5% more than number of red balls and the number of green ball is 12.5% less than number of white balls. If total number of balls is 518, then how many green balls are there?

- a. 160                                  b. 182  
c. 168                                  d. 224

## SECTION – IV

### Directions for questions (61-80):

In each of the following problems, there is one question and two statements I and II given below the question. You have to decide whether the data given in the statements is sufficient to answer the question. Read all the statements carefully and find which of the statements is/are sufficient to answer the given question. Choose the correct alternative in each question:

- a. If data in the statement I alone is sufficient to answer the question.
  - b. If data in the statement II alone is sufficient to answer the question.
  - c. If data either in the statement I alone or statement II alone are sufficient to answer the question.
  - d. If data in both statements I and II together are necessary to answer the question.
61. Among the four employees A, B, C and D who works for the most hours (each works for different no. of hours)?
- I. A works less than B, D works less than both A and C
  - II. C works less than B but more than D, A works more than C but not the most
62. How is M related to N ?
- I. N is son of P, who is wife of Q, M is son of R who is father in law of Q
  - II. Q is brother of M and son of R who is father in law of P, who is mother of N.
63. Kala's flat is on which floor of 5 floor apartments?
- I. Roja flat, which is adjacent to Kala, is exactly below Abi's flat which is on fifth floor
  - II. Kala's flat is exactly above Nila's flat, whose flat is exactly above Divya's first floor flat.
64. Which of the five trains P, Q, R, S and T is the best?
- I. S train is better than T train, P train and R train but not as good as Q train
  - II. S train is better than R train but not as good as Q which is better than T train

65. Which direction is Raju facing at the moment?
- Raju took 2 consecutive right turns after covering a distance of 6m to reach the point X.
  - After walking 4m early morning from point X, Raju is facing opposite direction of the sun.
66. What is the position of Ramesh?
- Balu stands between Basker and Magesh and Ramesh stands between Magesh and Vignesh
  - Sivan stands at an extreme end of the row and there is only one person between Sivan and Vignesh
67. How many students are there between Nikhil and Satish in a row of 40 students?
- Nikhil is 7<sup>th</sup> from the left end, Satish is 17<sup>th</sup> from the right end.
  - Nikhil is 6 places away from Ram, who is 20<sup>th</sup> from the left end.
68. What will be the total weight of 10 rods, each of the same weight?
- One-fourth of the weight of each rod is 5 kg.
  - The total weight of three rods is 20 kilograms more than the total weight of two rods.
69. What is the total number of students in a B-school?
- The number of students has grown by 5% this year as compared to 4% last year from the no. 1000
  - The respective ratio of boys and girls is 7:5
70. How much was the total sale of the business firm?
- The business firm sold 8000 units of product A each costing Rs. 25.
  - This business firm has no other product line.
71. On which day of the week did Kabilan leave for Malaysia?
- Kabilan didn't leave for Malaysia during the weekend.
  - Kabilan's brother left for Malaysia on Friday 2 days after Kabilan left for Malaysia

72. How many Note books does the shopkeeper sells on Sunday?
- I. On Sunday he sold 12 more note books than he sold the previous day
  - II. He sold 28 note books each on Thursday and Saturday
73. Determine the price of two type A tennis balls, if the total cost of a type A and a type B tennis ball is Rs.500
- I. Type B tennis ball cost Rs.200
  - II. Two type A and Three type B tennis balls cost Rs.1200
74. What was the grand total of White team of College ABC?
- I. Ram correctly remembers that White team scored a grand total of above 82 but below 91
  - II. Suresh correctly remembers White team scored above 77 and below 84
75. How is X related to Y?
- I. X is the son of Y's grandfather S
  - II. The sister of Y is mother of X's son T
76. Find the mean of the data
- I. The data has 8 data values
  - II. The data is 3, 4, 5, 6, 4, 1, 0, 5
77. What is the value of the positive number, K?
- I. One of its divisors is 7
  - II. K is divisible by two positive number only
78. In which month did Mithran go to Mumbai for business?
- I. Mithran's son remembers that he went after 20<sup>th</sup> August but before 10<sup>th</sup> September
  - II. Anand, friend of Mithran remembers that he went Mumbai in the 3<sup>rd</sup> quarter of the fiscal year



79. Madhan, a businessman brought a wooden box for Rs.80. Determine his profit
- He made a 30% profit
  - His selling price was Rs.104
80. Find the value of  $x$  if  $4x + 2y = 14$
- $Y = 2$
  - $X > y$

## SECTION – V

### Directions to Question (81-85)

In the following passage, some words have been deleted. Select the most appropriate option to fill each blank.

When the Business unit is \_\_\_\_\_ (1) \_\_\_\_\_ financial stress, what is the necessity for recruiting and \_\_\_\_\_ (2) \_\_\_\_\_ them for the past many months without any work”, asked T. Senthil, General Secretary, Employee Welfare Association. The associations \_\_\_\_\_ (3) \_\_\_\_\_ that the norms \_\_\_\_\_ (4) \_\_\_\_\_ appointments, including the advertisement of the vacancies in the media with adequate details, scrutiny of applications shortlisting and interviews, \_\_\_\_\_ (5) \_\_\_\_\_ not properly followed.

81. For Blank (1)
- |          |       |
|----------|-------|
| a. Under | b. In |
| c. Upon  | d. On |
82. For Blank (2)
- |          |           |
|----------|-----------|
| a. Payed | b. Paying |
| c. Pays  | d. Played |
83. For Blank (3)
- |            |             |
|------------|-------------|
| a. Claimed | b. Informed |
| c. Alleged | d. Stated   |

84. For Blank (4)

- |       |        |
|-------|--------|
| a. Of | b. In  |
| c. On | d. For |

85. For Blank (5)

- |         |        |
|---------|--------|
| a. Were | b. Was |
| c. Are  | d. Is  |

**Directions to Questions (86-88)**

In the questions below the sentences have been given in Active/Passive voice. From the given alternatives, choose the one which best expresses the given sentence in Passive/Active voice.

86. After driving Mr. Ram to the Library she dropped him at his house

- a. After being driven to the Library, Mr. Ram was dropped at his house
- b. Mr. Ram was being driven dropped at his house
- c. After she had driven Mr. Ram to the Library she had dropped him at his house
- d. After she was driven Mr. Ram to the Library she had dropped him at his house

87. He makes cakes every Friday

- a. Every Friday cakes made by him
- b. Cakes are made by him every Friday
- c. Cakes make him every Friday
- d. Cakes were made by him every Friday

88. They have not been submitted their class Assignment regularly

- a. The class assignment have not been submitted regularly by them
- b. The class assignment has not been submitted regularly by them
- c. The class assignment are not being submitted regularly
- d. The class assignment is not being submitted regularly by them

**Directions to Questions (89-90)**

Identify the segment which contains the grammatical error

89. I ran slower than all my competitors but won the race
- a. No error
  - b. I ran slower than
  - c. All my competitors
  - d. But won the race
90. We are about to shift to the house in Brindavan street by next week
- a. We are about to
  - b. Street by next week
  - c. To the house in Brindavan street
  - d. No error

**Directions to Questions (91-92):**

Choose the correct sequence

91. When it began to rain suddenly on the first of January
- (i) to celebrate the new year
  - (ii) we ran for shelter
  - (iii) to the neighbouring house
  - (iv) where many people had gathered
- a. (ii) (iii) (i) (iv)
  - b. (i) (iv) (ii) (iii)
  - c. (i) (iii) (iv) (ii)
  - d. (ii) (iii) (iv) (i)
92. Though she dialed frequently
- (i) on telephone
  - (ii) my sister could not contact me
  - (iii) and had left no information
  - (iv) As I had gone out of office
- a. (ii) (i) (iii) (iv)
  - b. (iv) (ii) (iii) (i)
  - c. (ii) (i) (iv) (iii)
  - d. (iv) (i) (ii) (iii)

**For questions 93 and 94, replace the wrong words/phrase underlined in the sentence with right one from among the given options**

93. A child does whatever her father was done
- a. Has done
  - b. Did
  - c. Does
  - d. Had done
94. After the bag was shut and barreled, he realized that he had forgotten to put in the book
- a. Scratched
  - b. Strapped
  - c. Rebounded
  - d. Scrambled
95. Choose the synonym of the word 'RAPTUROUS'
- a. Anxious
  - b. Delighted
  - c. Concealed
  - d. Agitated
96. Choose the synonym of the word 'RAPID'
- a. Foray
  - b. Maraud
  - c. Allege
  - d. Inebriate

97. Choose the antonym of the word 'LAUDABLE'
- a. Attractive
  - b. Marvelous
  - c. Creditable
  - d. Blameworthy
98. I saw a \_\_\_\_\_ of goats in the field
- a. Herd
  - b. Group
  - c. Swarm
  - d. Flock
99. Neha and Nyla are twin sisters, but they do not look \_\_\_\_\_.
- a. Unique
  - b. Different
  - c. Likely
  - d. Alike
100. Aryan always \_\_\_\_\_ the permission of his mother before going for movies.
- a. Seeking
  - b. Seeks
  - c. Sought
  - d. Seeker
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FOR ROUGH WORK

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