

## SECTION-I – ENGLISH COMPREHENSION AND LANGUAGE ABILITY

**Directions (Questions 1-4):** Fill in the blank.

1. Since she believed him to be both candid and trust-worthy, she refused to consider the possibility that his statement had been \_\_\_\_\_.  
(1) irrelevant                      (2) facetious                      (3) mistaken                      (4) insincere
2. The sheer bulk of data from the mass media seems to overpower us and drive us to \_\_\_\_\_ accounts for an easily and readily digestible portion of news.  
(1) insular                      (2) investigative                      (3) synoptic                      (4) subjective
3. Any numerical description of the development of the human population cannot avoid \_\_\_\_\_, simply because there has never been a census of all the people in the world.  
(1) analysis                      (2) conjecture                      (3) corroboration                      (4) statistics
4. Relatively few politicians willingly forsake center stage, although a touch of \_\_\_\_\_ on their parts now and again might well increase their popularity with the voting public.  
(1) garrulity                      (2) misanthropy                      (3) self-effacement                      (4) self-dramatization

**Directions (Questions 5-10):** Each question has an idiomatic phrase. Choose the word that is closest in meaning to idiomatic phrase.

5. Wear one's heart on one's sleeve  
(1) inure passionately                      (2) Do the right thing  
(3) Show one's feelings                      (4) Be intimate
6. See eye to eye  
(1) State at each other                      (2) Agree  
(3) Depend on                      (4) Make an effort
7. To fall flat  
(1) Retreat                      (2) To meet accidentally  
(3) Quarrel                      (4) To be met with a cold reception
8. To stick to one's guns  
(1) Maintain one's stand under attack                      (2) Suspect something  
(3) Make something fail                      (4) Be satisfied
9. To have the gift of the gab  
(1) A talent for speaking                      (2) To do exactly the right thing  
(3) To be cheerful                      (4) To get lots of gifts

10. Talk shop

(1) Talk about one's profession

(2) Talk about shopping

(3) Ridicule

(4) Treat lightly

**Directions (Questions 11-14):** Choose the option that replaces the underlined part and makes the sentence most appropriate grammatically.

11. In addition to providing more course offerings than Modern School, the teachers at Ryan School are better trained than those at Modern, having received more information, on instructing a multilingual and culturally diverse student body.

(1) the teachers at Ryan School are better trained than those at

(2) Ryan School has teachers who are better trained than those at

(3) Ryan School teachers are better trained than they are at

(4) the teachers at Ryan School are better in training than those at

12. In 1905, *The House of Mirth*, Edith Wharton's novel about the blighted aspirations of Lily Bart was published by Scribner's and it was a reputable press in the early twentieth century.

(1) Lily Bart was published by Scribner's and it was

(2) *Lily Bart*, published by Scribner's and was

(3) *Lily Bart* was published by Scribner's being

(4) *Lily Bart*, was published by Scribner's

13. In the past few months, there has been extensive dispute over if fare hikes should be a first or last recourse in improving the transit system.

(1) over if fare hikes should be a first or last recourse

(2) about if fare hikes are a first or last recourse

(3) about hiking fares as being a first or last recourse

(4) over whether fare hikes should be a first or last recourse

14. American executives, unlike their Japanese counterparts, have pressure to show high profits in each quarterly report, with little thought given to long-term goals.

(1) have pressure to show

(2) are under pressure to show

(3) are under the pressure of showing

(4) are pressured toward showing

**Directions (Questions 15-17):** Choose the order of the sentences marked A, B, C, D and E to form a logical paragraph.

15. A She got offers to sing from a number of music directors.  
B Consequently, today her name is all over as a popular singer.  
C However, she was really reluctant to give auditions, which delayed her entry into the field of music.  
D Not only was she good looking, she had tremendous talent for music, especially singing.  
E When she did start singing, she made a mark for herself in a short time.

(1) AECDB (2) BCAED (3) DCEAB (4) EACBD

16. A As indicated by a number of surveys in 2012, Indian employer will have trouble finding highly qualified people.  
B This has made it a perennial challenge for HR managers in the days to come.  
C India Inc has transformed into a volatile ground for breeding talent with the amplification of the demand-supply gap.  
D This trend is set to continue for the next three years.  
E This revelation has come as an eye-opener, as in order to run the game here on, the challenge of a talent crunch will be amongst the foremost snags.

(1) ECDAB (2) BDEAC (3) CBADE (4) BAEDC

17. A Studio journalism with five people discussing the fate of the country is certainly an absurd idea.  
B As a result, media does not do reflection analysis which is the need of the hour to solve these issues.  
C Electronic media in our country is obviously Delhi-centred.  
D Presently, media is good at highlighting issues but not solving them.  
E Thus, you do not have reportage from different parts of the country.

(1) AEDCB (2) CEADB (3) DCBAE (4) EDACB

**Directions (Questions 18-20):** Rearrange the jumbled alphabets in the following four options and find the odd word among them.

18. (1) ESUNV (2) NRSUTA (3) SGAGNE (4) RPUTTEJ

19. (1) ZIBALR (2) FGIAFER (3) ECFNAR (4) LSAREI

20. (1) ESTROTIO (2) HNDLOPI (3) LPICEN (4) KHRAS

**Directions (Questions 21-23):** Each of these questions has a text portion followed by four alternative summaries. Choose the option that best captures the essence of the text.

21. Social experts point out that people who stay in nuclear families feel more aloof and lonely and are not able to cope with stressful situations of modern life and, in extreme cases, it leads to spontaneous drastic reactions like suicides and even murders.
- (1) Staying in a nuclear family makes a person lonely and when he is not able to cope with stress, he may even commit murders or suicides.
  - (2) One should not stay in a nuclear family as this makes a person aloof and lonely and he is not able to deal with stress.
  - (3) According to social experts nuclear family members become lonely and aloof and find difficulty in coping with stress of modern life, while in extreme cases it may even lead to suicides or committing a murder.
  - (4) As per social experts, nuclear families make people lonely and aloof and they may commit murders or suicides as they cannot cope with stressful situations.
22. Few would argue that the problem to put an economy as complex as ours on the path of sustained growth is replete with umpteen challenges, but the country has no dearth of able men to lead the nation to prosperity, the moot point being the political will to address core issues involved.
- (1) Though we have a number of problems facing our country, yet if there is a political will, we can develop our economy.
  - (2) Unless we find solutions to certain core issues of our nation, it would not be possible to develop our economy adequately.
  - (3) India has a large number of competent people who can lead our country and also develop our economy as expected.
  - (4) Though we agree that there are a number of challenges to ensure a sustained growth of our economy, yet if we have the political will, there are able people who can do it.
23. India is one of the biggest exporters of knowledge workers, but we do not have the needed mechanism to utilize this asset for our own development and there is a conspicuous absence of local management techniques to enthuse Indian companies to outperform others.
- (1) We have enough trained and talented workforce but lack indigenous management techniques to overtake others.
  - (2) India has not been able to utilize its own manpower for its development presently.
  - (3) India should utilize its knowledge workers for its own development and, with indigenous management techniques enthuse Indian workers to overtake others.
  - (4) Despite having considerable trained manpower, India has not been able to develop its own management techniques to outperform others in the field.

**Directions (Questions 24-40):** Study the passages below and answer the questions that follow each passage.

### Passage-I

Of the 197 million square miles making up the surface of the globe, 71 per cent is covered by the interconnecting bodies of marine water; the Pacific Ocean alone covers half the Earth and averages near 14,000 feet in depth. The *continents* — Eurasia, Africa, North America, South America, Australia, and Antarctica — are the portions of the *continental masses* rising above sea level. The submerged borders of the continental masses are the *continental shelves*, beyond which lie the deep-sea basins. The oceans attain their greatest depths not in their central parts, but in certain elongated furrows, or long narrow troughs, called *deeps*. These profound troughs have a peripheral arrangement, notably around the borders of the Pacific and Indian oceans. The position of the deeps near the continental masses suggests that the deeps, like the highest mountains, are of recent origin, since otherwise they would have been filled with waste from the lands. This suggestion is strengthened by the fact that the deeps are frequently the sites of world-shaking earthquakes. For example, the "tidal wave" that in April, 1946, caused widespread destruction along Pacific coasts resulted from a strong earthquake on the floor of the Aleutian Deep. The topography of the ocean floors is not well known. Since in great areas, the available soundings are hundreds or even thousands of miles apart. However, the floor of the Atlantic is becoming fairly well known as a result of special surveys since 1920. A broad, well-defined ridge — the Mid-Atlantic ridge — runs north and south between Africa and the two Americas, and numerous other major irregularities diversify the Atlantic floor. Closely spaced soundings show that many parts of the oceanic floors are as rugged as mountainous regions of the continents. Use of the recently perfected method of echo sounding is rapidly enlarging our knowledge of submarine topography. During World War II, great strides were made in mapping submarine surfaces, particularly in many parts of the vast Pacific basin. The continents stand on the average 2870 feet — slightly more than half a mile — above sea level. North America averages 2300 feet; Europe averages only 1150 feet; and Asia, the highest of the larger continental sub-divisions, averages 3200 feet. The highest point on the globe, Mount Everest in the Himalayas, is 29,000 feet above the sea; and as the greatest known depth in the sea is over 35,000 feet, the maximum *relief* (that is, the difference in altitude between the lowest and highest points) exceeds 64,000 feet, or exceeds 12 miles. The continental masses and the deep-sea basins are relief features of the first order; the deeps, ridges, and volcanic cones that diversify the sea floor, as well as the plains, plateaus, and mountains of the continents, are relief features of the second order. The lands are unendingly subject to a complex of activities summarized in the term *erosion*, which first sculpts them in great detail and then tends to reduce them ultimately to sea level. The modeling of the landscape by weather, running water, and other agents is apparent to the keenly observant eye and causes thinking people to speculate on what must be the final result of the ceaseless wearing down of the lands. Long before, there was a science of geology, Shakespeare wrote "the revolution of the times makes mountains level."

24. Which of the following would be the most appropriate title for the passage?
- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| (1) Features of the Earth's Surface | (2) Marine Topography               |
| (3) The Causes of Earthquakes       | (4) Primary Geologic Considerations |

25. The "revolution of the times" as used in the passage means the
- |                         |                                |
|-------------------------|--------------------------------|
| (1) passage of years.   | (2) current rebellion.         |
| (3) science of geology. | (4) action of the ocean floor. |
26. According to the passage, the peripheral furrows or deeps are found
- |  |                                 |
|--|---------------------------------|
| (1) only in the Pacific and Indian oceans. | (2) near earthquakes.           |
| (3) near the shore.                        | (4) in the centre of the ocean. |
27. As per the passage, it can be inferred that earthquakes
- |   |
|---|
| (1) occur only in the peripheral furrows.                         |
| (2) occur more frequently in newly formed land or sea formations. |
| (3) are a prime cause of soil erosion.                            |
| (4) will ultimately "make mountains level".                       |

#### Passage-II

Plato may have understood better what forms the mind of man than do some of our contemporaries who want their children exposed only to "real" people and everyday events — knew what intellectual experiences make for true humanity. He suggested that the future citizens of his ideal republic begin their literary education with the telling of myths, rather than with mere facts or so-called rational teachings. Even Aristotle, master of pure reason, said: "The friend of wisdom is also a friend of myth." Modern thinkers who have studied myths and fairy tales from a philosophical or psychological viewpoint arrive at the same conclusion, regardless of their original persuasion. Mircea Eliade, describes these stories as "models for human behavior by that very fact, give meaning and value to life." Drawing on anthropological parallels, he and others suggest that myths and fairy tales were derived from, or given symbolic expression to, initiation rites or other *rites of passage* — such as metaphoric death of an old, inadequate self in order to be reborn on a higher plane of existence. He feels that this is why these tales meet a strongly felt need and are carriers of such deep meaning. Other investigators with a depth psychological orientation emphasize the similarities between the fantastic events in myths and fairy tales and those in adult dreams and daydreams — the fulfillment of wishes, the winning out over all competitors, the destruction of enemies — and conclude that one attraction of this literature is its expression of that which is normally prevented from coming to awareness. There are, of course, very significant differences between fairy tales and dreams. For example, in dreams more often than not the wish fulfillment is disguised, while in fairy tales much of it is openly expressed. To a considerable degree, dreams are the result of inner pressures which have found no relief, of problems which beset a person to which he knows no solution and to which the dream finds none. The fairy tale does the opposite: it projects the relief of all pressures and not only offers ways to solve problems but promises that a "happy" solution will be found. We cannot control what goes on in our dreams. Although our inner censorship influences what we may dream, such control occurs on an unconscious level. The fairy tale, on the other hand, is very much the result of common conscious and unconscious content having been shaped by the conscious mind, not of one particular person, but the consensus of many in regard to what they view as universal human

problems, and what they accept as desirable solutions. If all these elements were not present in a fairy tale, it would not be retold by generation after generation. Only if a fairy tale met the conscious and unconscious requirements of many people was repeatedly retold, and listened to with great interest. No dream of a person could arouse such persistent interest unless it was worked into a myth, as was the story of the pharaoh's dream as interpreted by Joseph in the Bible.

28. It can be inferred from the passage that the author's interest in fairy tales centers chiefly on their
- |                         |                              |
|-------------------------|------------------------------|
| (1) literary qualities. | (2) historical background.   |
| (3) factual accuracy.   | (4) psychological relevance. |
29. It can be inferred from the passage that Mircea Eliade is most likely a/an
- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| (1) writer of children's literature. | (2) student of physical anthropology. |
| (3) twentieth-century philosopher.   | (4) advocate of practical education.  |
30. Which of the following best describes the author's attitude toward fairy tales?
- |                             |                     |
|-----------------------------|---------------------|
| (1) Reluctant fascination   | (2) Wary skepticism |
| (3) Scornful disapprobation | (4) Open approval   |
31. The author quotes Plato and Aristotle primarily in order to
- |   |
|---|
| (1) define the nature of myth.                    |
| (2) contrast their opposing points of view.       |
| (3) support the point that myths are valuable.    |
| (4) prove that myths originated in ancient times. |
32. The author mentions all of the following as reasons for reading fairy tales except
- |                               |                                |
|-------------------------------|--------------------------------|
| (1) emotional catharsis.      | (2) behavioral paradigm.       |
| (3) uniqueness of experience. | (4) sublimation of aggression. |

### Passage-III

Advanced technology has created a vast increase in occupational specialties, many of them requiring many, many years of highly specialised training. It must motivate this training. It has made ever more complex and "rational" the ways in which these occupational specialties are combined in our economic and social life. It must win passivity and obedience to this complex activity. Formerly, technical rationality had been employed only to organise the production of rather simple physical objects, for example, aerial bombs. Now technical rationality is increasingly employed to organise all of the processes necessary to the utilisation of the physical objects, such as bombing systems, maintenance, intelligence and supply systems. For this reason it seems a mistake to argue that we are in a "post-industrial" age, a concept favoured by the laissez innover school. On the contrary, the rapid spread of technical rationality into organisational and economic life and, hence, into social life is more aptly described as second and much more intensive phase of industrial revolution. One might reasonably suspect that it will create analogous social problems. Accordingly, a third major hypothesis would argue that there are very profound social antagonisms or contradictions not less

sharp or fundamental than those ascribed by Marx to the development of nineteenth century industrial society. The general form of the contradictions might be described as follows — a society characterised by the employment of advanced technology requires an ever more socially disciplined population, yet retains an ever declining capacity to enforce the required discipline. One way readily describes four specific forms of the same general contradiction. Occupationally, the work force must be over-trained and under-utilised. Here, again, an analogy to classical industrial practice serves to shorten and simplify the explanation, I have in mind the assembly line. As a device in the organisation of the work process, the assembly line is valuable mainly. It gives management a high degree of control over the pace of the work and, more to the point in the present case, it divides the work process into units so simple that the quality of the work performed is readily predictable. That is, since each operation uses only a small fraction of worker's skill, there is a very great likelihood that the operation will be performed in a minimally acceptable way. Alternately, if each operation taxed the worker's skill, there would be frequent errors in the operation, frequent disturbance of the work flow, and a thoroughly unpredictable quality of the end product. The assembly line also introduces standardisation in work skills and thus makes for a high degree of interchange ability among the work force. For analogous reasons, the work force in advanced technological systems must be relatively over-trained or, what is the same thing, its skills relatively under-used. My impression is that, this is no less true now sociologists than of welders, of engineers than of assemblers. The contradiction emerges when we recognize that technological progress requires a continuous increase in the skill levels of its work force, skill levels which frequently embody a fairly rich scientific and technical training. While at the same time, the advance of technical rationally in work organisation means that those skills will be less and less fully used. Economically, there is a parallel process at work. It is commonly observed that the work force within technologically advanced organisations is asked to work not less hard but more so. This is particularly true for those with advanced training and skills. Brzezinski's conjecture that technical specialists undergo continuous retraining is off the mark only in that it assumes such retraining only for a managing elite. To get people of work harder require growing incentives. Yet the prosperity which is assumed in technologically advanced society erodes the value of economic incentives. Salary and wage increases and the goods they purchase lose their over riding importance once necessities, creature comforts, and an ample supply of luxuries are assured. As if in confirmation of this point, it has been pointed out that among young people one can already observe a radical weakening in the power of such incentives as money, status, and authority.

33. The passage indicates that technologically advanced institutions
- (1) fully utilise worker's skills.
  - (2) fare best under a democratic system.
  - (3) necessarily overtrain workers.
  - (4) find it unnecessary to enforce discipline.
34. Technologies cannot conquer nature unless
- (1) there is another more intense industrial revolution.
  - (2) there is strict adherence to a laissez innover policy.
  - (3) worker and management are in concurrence.
  - (4) the institutions have control over the training, mobility and skills of the work force.



35. It can be inferred from the passage that the author is
- (1) an eloquent spokesman for technological advancement.
  - (2) in favour of increased employee control of industry.
  - (3) vehemently opposed to the increase of technology.
  - (4) skeptical of the working of advanced technological institutions.

36. The articles states that money, status and authority
- (1) will always be powerful work incentives.
  - (2) are not powerful incentives for the young.
  - (3) are unacceptable to radical workers.
  - (4) are incentives evolving out of human nature.

#### Passage-IV

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 rain forests. 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 rain forests. Since forests absorb carbon dioxide through photosynthesis, planting such forests help 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 analyzing 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

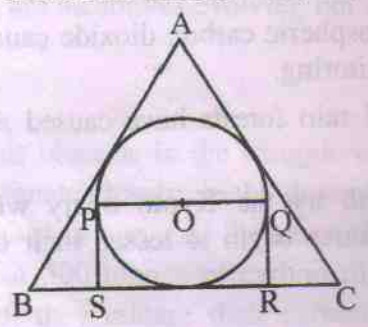
past with little success, citing the Global Rain Forest Mapping Project which was instituted in the mid 1990s amid concern over rapid deforestation in the Amazon. However, the limited data of the mapping project was due only to the small amount of data that could be sent from the satellite. Modern satellites 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.

37. Which one of the following most accurately expresses the main point of the passage?
- (1) Although scientists continue to search for a solution, there is, as yet, no good solution for the problem of rain forest deforestation.
  - (2) One major obstacle to lessening the contribution of atmospheric carbon dioxide caused by deforestation may be removed through satellite radar monitoring.
  - (3) Recent increases in the rate of deforestation of tropical rain forests have caused serious concern and spurred efforts to curb such deforestation.
  - (4) 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.
38. It can be inferred from the passage that photographic satellite images
- (1) are impervious to bad weather.
  - (2) cannot be used efficiently at night.
  - (3) are less expensive than radar monitoring.
  - (4) can send only a small amount of data from a satellite to a base.
39. The information presented in the passage implies which one of the following about the mapping project?
- (1) The project was unsuccessful because it used only satellite radar monitoring.
  - (2) If the satellite had been able to send more data, the project may have been successful.
  - (3) It was established by the Kyoto treaty in response to widespread concern over deforestation.
  - (4) The project used only conventional satellite monitoring and on-site verification visits.
40. According to the passage, each of the following is true about tropical rainforests except
- (1) harvested trees release carbon dioxide.
  - (2) they are sometimes subject to heavy cloud cover.
  - (3) they are protected from deforestation by the Kyoto treaty.
  - (4) they are not always easily reachable by modern transportation.

## SECTION-II - QUANTITATIVE ABILITY

41. A, B, and C have a few chocolates among themselves. A gives to each of the other two half the number chocolates they already have. Similarly B and C (in that order) give each of the other two half the number of chocolates each of them already has. Now, if each of them has the same number of chocolates, what could be the minimum number of chocolates they have among themselves?
- (1) 243                      (2) 81                      (3) 27                      (4) None of these

42. ABC is an equilateral triangle while PQRS is a rectangle, then what is the area of PQRS if each side of the  $\Delta ABC = 10$ . The side of the rectangle passes through the centre O of the circle?



- (1)  $30\sqrt{3}$                       (2)  $\frac{50}{\sqrt{3}}$                       (3) 16.67                      (4) 12.25

43. Five bells begin to toll together and toll respectively at intervals of 6, 7, 8, 9 and 12 seconds. How many times they will toll together in one hour?
- (1) 5                      (2) 14                      (3) 6                      (4) 7

44. Eight members of different ages from the same family sit around a circular table for dinner. In how many ways can they be arranged such that on either side of younger members there are elder members seated?
- (1) 144                      (2) 720                      (3) 5040                      (4) 61

45. The median of the first 20 prime numbers is \_\_\_\_\_.
- (1) 29                      (2) 26                      (3) 34                      (4) 30

46. Sum of two numbers is 17, whereas sum of their squares is 145. What is the product of the two numbers?
- (1) 72                      (2) 42                      (3) 82                      (4) 14

47. What is the least square number which is divisible by 3, 5, 6 and 9?
- (1) 900                      (2) 700                      (3) 500                      (4) None of these

1+3+5+7+9+11+13+15+17+19+21+23+25+27+29+31+33+35+37+39+41+43+45+47+49+51+53+55+57+59+61+63+65+67+69+71+73+75+77+79+81+83+85+87+89+91+93+95+97+99  
 36x9x3  
 24x3  
 7x3  
 86x2  
 72x3  
 63x2  
 53x2

$r.B = \frac{\sqrt{3} \times 10}{2}$   
 $r.B = \frac{\sqrt{3} \times 10}{2}$   
 $\frac{5\sqrt{3} \times 10}{3}$   
 $\frac{25 \times 3 \times 2}{9}$   
 $\frac{150}{9} = 16.67$

$h^2 + b^2 = 17^2$   
 $h^2 + b^2 = 145$   
 $h^2 + b^2 = 145$   
 $\frac{145 \pm 145}{2}$

2022  

$$\frac{49 + 12 - 168}{-107} = \frac{49 + 48 - 168}{-107}$$

$$\frac{(\sqrt{a})^2 + (\sqrt{b})^2 - 2\sqrt{ab}}{(\sqrt{a} + \sqrt{b})^2} = \frac{a + b - 2\sqrt{ab}}{a + b + 2\sqrt{ab}}$$

$$\frac{180}{36} = 5$$

$$\begin{aligned} x - y &= 3 \\ x^2 + y^2 &= 369 \\ 9 = 369 \\ 2x &= 369 \end{aligned}$$

$$\begin{aligned} 13x + 4y &= 725 \\ 218y &= 27 \end{aligned}$$

$$\begin{aligned} 1680 - \frac{1}{4} \\ 6720 - \frac{1}{4} \\ 60 \\ 5039 \end{aligned}$$

$$\begin{aligned} x + y &= 12 \\ xy &= 35 \end{aligned}$$

$$\frac{27}{5} \times \frac{1}{2} \times \frac{1}{5} \times 100 = \frac{47}{5} \times 20 = 188$$

48. If  $\left(1 + \frac{x}{144}\right)^{\frac{1}{2}} = 1 + \frac{1}{2}$ , what is the value of x?

- (1) 25 (2) 75 (3) 115 (4) 225

49. The difference between two positive numbers is 3. If the sum of their squares is 369, then the sum of the numbers is

- (1) 81 (2) 33 (3) 27 (4) 25

50. If  $x = 7 - 4\sqrt{3}$ , then the value of  $x^2 + \frac{1}{x^2}$  is

- (1) 53 (2) 61 (3) 28 (4) 194

51. If one-third of one-fourth of a number is 15, then three-tenth of that number is

- (1) 35 (2) 36 (3) 45 (4) 54

52. What least fraction must be subtracted from the square root of  $105\frac{1}{16}$  so that the result is a whole number?

- (1)  $\frac{1}{4}$  (2)  $\frac{1}{3}$  (3)  $\frac{1}{2}$  (4) None of these

53. Which one of the following fractions is the least?

$\frac{29}{57}, \frac{31}{85}, \frac{13}{38}, \frac{17}{42}$

- (1)  $\frac{29}{57}$  (2)  $\frac{31}{85}$  (3)  $\frac{13}{38}$  (4)  $\frac{17}{42}$

54. The sum and product of two numbers are 12 and 35 respectively. What will be the sum of their reciprocals?

- (1)  $\frac{1}{3}$  (2)  $\frac{1}{5}$  (3)  $\frac{12}{35}$  (4)  $\frac{35}{12}$

55. The simplified value of  $\frac{\frac{1}{3} + \frac{1}{3} \times \frac{1}{3}}{\frac{1}{3} + \frac{1}{3} \text{ of } \frac{1}{3}} - \frac{1}{9}$  is

- (1) 2 (2) 1 (3)  $\frac{1}{3}$  (4) None of these

56. Two numbers are such that they are 40% and 50% of the third number. First number as a percentage of the second is

- (1) 80% (2) 40% (3) 25% (4) 47%

57. A student has to secure 45% marks to qualify for interview in a written examination. If he gets 79 marks and fails by 56 marks, what is the maximum marks set to qualify for interview?
- (1) 200      (2) 300      (3) 350      (4) 400

58. Anita gave 10% in charity from her salary, and then 20% from the remaining she gave to her friend as loan. She is left now with ₹7200. What is the salary of Anita?
- (1) ₹15000      (2) ₹10000      (3) ₹20000      (4) ₹9000

59. A man gets double the amount in 7 years at a certain rate percent. In how many years, he gets 8 times the amount at the same rate?
- (1) 56 years      (2) 49 years      (3) 25 years      (4) 14 years

60. A man took a loan of ₹2400 to be paid back in 13 equal monthly installments of ₹200 each. If the rate of interest is simple, what is the rate percent?
- (1) 18.38%      (2) 16.52%      (3) 14.25%      (4) None of these

61. Rani invested a sum of ₹800 in a post office for 3 years at 5% compound interest. How much money will she get at the end of 3 years?
- (1) ₹800      (2) ₹758.20      (3) ₹926.10      (4) ₹824.30

62. On what principal will the compound interest for 3 years at 5% per annum amount to ₹63.05?
- (1) ₹400      (2) ₹600      (3) ₹300      (4) ₹800

63. A is thrice as good a workman as B and therefore able to finish a piece of work in 60 days less than B. How much time will they both take to finish it together?
- (1)  $11\frac{1}{3}$  days      (2)  $22\frac{1}{2}$  days      (3)  $33\frac{1}{3}$  days      (4) None of these

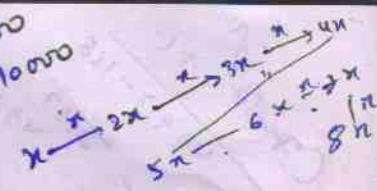
64. A does half as much work as B, and C does half as much work as A and B together. If C alone can finish the work in 40 days, then together all will finish the work in
- (1)  $13\frac{1}{3}$  days      (2) 15 days      (3) 20 days      (4) 30 days

65. A train 110 m in length is travelling at the speed of 58 km/h. The time in which it will pass a passer by walking at the rate of 4 km/h in the same direction is
- (1) 6 seconds      (2)  $7\frac{1}{2}$  seconds      (3)  $7\frac{1}{3}$  seconds      (4) 15 seconds

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$x + 56 = 45\%$   
 $x + 56 = \frac{45}{100}x$   
 $100x + 5600 = 45x$   
 $55x = -5600$   
 $x = -101.8$

$\frac{32}{40} \times \frac{3}{4}$   
 $\frac{26x}{50} = \frac{2220}{200}$   
10000



$2(x-60)$   
 $x(x-60) = 3x$   
 $x^2 - 60x = 3x$   
 $x^2 - 63x = 0$   
 $x(x-63) = 0$   
 $x = 63$

$67$   
 $8800$   
 $1200$   
 $2(x-60)$   
 $x = 3(x-60)$   
 $x = 3x - 180$   
 $-2x = -180$   
 $x = 90$

$A = 3B$   
 $A = \frac{C}{2}$   
 $C = \frac{A}{2}$   
 $A = \frac{C}{2}$   
 $C = 2A$   
 $A = \frac{2A}{2}$   
 $A = A$   
 $3x - 180 = 2x$   
 $x = 180$

$\frac{d}{ax} + \frac{d}{b} = \frac{2d}{2x}$   
 $\frac{2d+ad}{2x} = \frac{d}{2x}$   
 $\frac{480 \text{ km}}{3} \rightarrow 60$   
 $\frac{12}{48} = \frac{12}{48} \times \frac{48}{48}$

66. A car can finish a certain journey in 10 hours at a speed of 48 km/h. In order to cover the same distance in 8 hours, the speed of the car must be increased by  
 (1) 6 km/h (2) 7.5 km/h (3) 12 km/h (4) 15 km/h

$\frac{4x}{3(x+20)}$   
 $3(x+20) = 4(x)$   
 $3x + 60 = 4x$   
 $60 = x$   
 $\frac{2x}{60} = \frac{2}{3}$

67. In covering a certain distance, the speeds of A and B are in the ratio of 3:4. A takes 20 minutes more than B to reach the destination. The time taken by A to reach the destination is  
 (1)  $1\frac{1}{4}$  hours (2)  $1\frac{1}{3}$  hours (3) 2 hours (4)  $2\frac{1}{2}$  hours

68. A man walks a certain distance at 8 km/h and returns at 6 km/h. If the total time taken by him is  $3\frac{1}{2}$  hours, the total distance he walks is  
 (1) 12 km (2) 14 km (3) 24 km (4) 28 km

$8x = 24$   
 $9 \cdot 33$   
 $:12:$

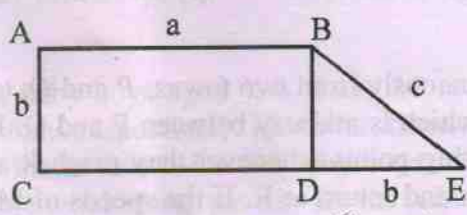
69. The ratio of age of Aman and his mother is 3:11. The difference of their ages is 24 years. What will be the ratio of their ages after 3 years?  
 (1) 1:3 (2) 3:2 (3) 1:4 (4) 5:4

70. A, B and C have amounts in the ratio of 3:4:5. First B gives  $\frac{1}{4}$ th to A and  $\frac{1}{4}$ th to C then C gives  $\frac{1}{6}$ th to A. What is the final ratio of amount of A, B and C respectively?  
 (1) 4:3:5 (2) 5:4:3 (3) 6:4:2 (4) 5:2:5

71. Ms. Gupta bought a house for ₹C in 2010. Three years later she sold the house for 25% more than she paid for it. She has to pay a tax of 50% on the gain. (The gain is the selling price minus the cost.) How much tax must Ms. Gupta pay?  
 (1)  $\frac{1}{24}C$  (2)  $\frac{1}{4}C$  (3)  $\frac{C}{8}$  (4)  $\frac{1}{6}C$

$\frac{5(2x+C)}{2}$

72. What is the area of the figure below, if ABDC is a rectangle and BDE is an isosceles right triangle?



$A \rightarrow 4x$   
 $B \rightarrow 2x \rightarrow 2x$   
 $C \rightarrow 6x \rightarrow 5x$   
 $5:2:5$

$800(1 + \frac{25}{100})^3$   
 $\frac{21 \times 21 \times 21}{20 \times 20 \times 20}$   
 $\frac{441}{882}$   
 $\frac{441}{10261}$   
 $2052$

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(1)  $ab$   
 (2)  $ab^2$   
 (3)  $b(a + \frac{b}{2})$   
 (4)  $cab$   
 $630 + (30 + 1.5) + (30 + \frac{1}{2})$   
 $630 + 31.5 + 30.5$   
 $922$   
 $15$   
 $251.2$   
 $502.4$   
 $2010 \times \frac{25}{100}$   
 $502.5$   
 $\times \frac{50}{100}$   
 $251.25$   
 $2512.5$   
 $1009.6$

$10A + B - 10B + A = 9(A + B)$   
 $A + B = 3$

$1 \times 2$

$\frac{13}{20} \times \frac{36000}{50} = 936$

73. If  $2x + y = 5$ , then  $4x + 2y =$   
 (1) 5 (2) 8 (3) 9 (4) 10

74. If the radius of a circle is increased by 6%, then the area of the circle is increased by  
 (1) .36% (2) 3.6% (3) 6% (4) 12.36%

75. If a light flashes every 6 seconds, how many times will it flash in  $\frac{3}{4}$  of an hour?  
 (1) 225 (2) 250 (3) 450 (4) 480

76. The sum and difference of LCM and HCF of 2 numbers is 638 and 580. The sum of two numbers is 290. What are the two numbers?  
 (1) 29,261 (2) 87,203 (3) Data inadequate (4) None of these

77. In a two-digit number, the unit digit is 3 more than the ten's digit. The difference between the number and the number formed by interchanging the digits of the number is 27. What is the value of original number?  
 (1) 63 (2) 27 (3) 19 (4) None of these

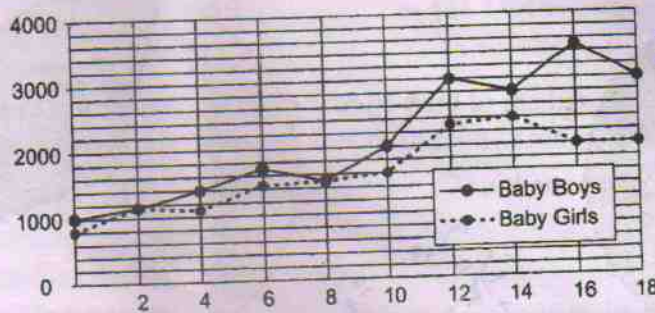
78. A washing machine was purchased under installment system, cash down payment is ₹3,000 and 3 equal annual installments of ₹1,300 are payable at the end of first, second and third year. If rate of interest is 10% p.a. under simple interest. Find the price of washing machine and the total interest charged under installment plan.  
 (1) ₹6,500; ₹400 (2) ₹6,600; ₹300 (3) ₹6,300; ₹600 (4) ₹6,000; ₹900

79. The three sides of a right-angled triangle have integral lengths and also form an arithmetic progression. A possible length of one of the sides is  
 (1) 22 (2) 91 (3) 82 (4) 56

80. Mona and Sona start simultaneously from two towns, P and Q, towards Q and P respectively at 8:00 AM. R is a checkpost which is midway between P and Q. Both Mona and Sona turn back towards their respective starting points whenever they reach R and every time they reach their starting points they turn back and return to R. If the speeds of Mona and Sona are 45 km/h and 60 km/h respectively and  $PQ = 24$  km, when will they reach R at the same time?  
 (1) 10 : 24 AM (2) 11 : 36 AM (3) 2 : 12 PM (4) None of these

### SECTION-III - DATA INTERPRETATION

**Directions (Questions 81-85):** Consider the following graph and answer the questions based on it.



	BB	BG
0	1000	1000
2	1200	1200
4	1400	1300
6	1800	1600
8	1800	1800
10	2200	1900
12	3000	2500
14	3200	2600
16	3800	2300
18	3500	2300

**Calories required per day by baby boys and baby girls in the first eighteen months of their lives**

81. At what ages are the requirements of calories for baby boys and baby girls equal?  
 (1) 2 months (2) 4 months  
 (3) 8 months (4) 2 months and 8 months
82. The difference between the calorie requirement for baby boys and baby girls at the age of 6 months is approximately equal to  
 (1) 300 calories. (2) 250 calories. (3) 400 calories. (4) 200 calories.
83. If in a family there are four baby boys aged 4, 6, 8 and 12 months respectively, and three baby girls aged 2, 8 and 16 months respectively, then what is the total calorie requirement per day for the babies in the family?  
 (1) 12,100 (2) 12,250 (3) 12,400 (4) None of these
84. If the baby girl aged 16 months goes away, what is the percentage change in the calorie requirement per month for the family?  
 (1) 16.3% (2) 17.4% (3) 14.3% (4) 12.2%
85. In a family there are four baby boys aged 4, 6, 8 and 12 months respectively, and three baby girls aged 2, 8 and 16 months respectively. However, doctor Raj informs Ravi that the graphs have got mixed up and what is shown for the baby boys, is for the baby girls and vice versa, then what is the total calorie requirement per day for the babies in the family?  
 (1) 12,100 (2) 12,250 (3) 12,400 (4) None of these

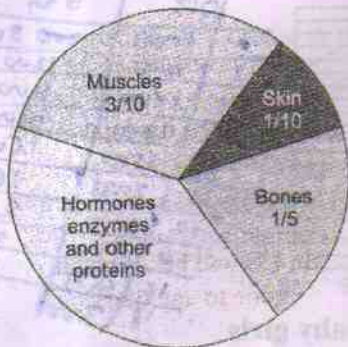
$$1400 + 1800 + 1500 + 3000 = 7700$$

$$800 + 1500 + 2000 = 4300$$

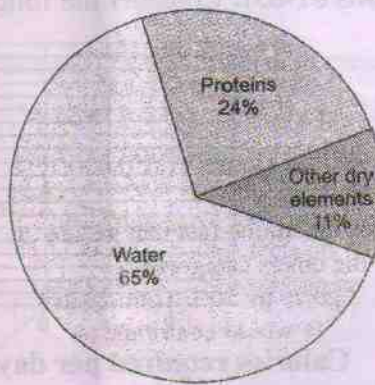
$$5200$$



**Directions (Questions 86-88):** The following pie charts give the information about the distribution of weight in the human body according to different kinds of components. Study the pie charts carefully to answer these questions.



(a)



(b)

86. How much of the human body is neither made of bones nor skin?  
 (1) 40%                      (2) 50%                      (3) 60%                      (4) 70%
87. What is the ratio of the distribution of proteins in the muscles to that of the distribution of proteins in the bones?  
 (1) 2:1                      (2) 2:3                      (3) 3:2                      (4) None of these
88. What percentage of proteins of the human body is equivalent to the weight of its skin?  
 (1) 41.66%                      (2) 43.33%                      (3) 44.44%                      (4) None of these

**Directions (Questions 89-91):** Mr Kunal Sharma wants to buy a motorbike which is priced at ₹45,500. The bike is also available at ₹25,000 down payment and monthly installments of ₹1000 per month for 2 years or ₹18,000 down payment and monthly installment of ₹1000 per month for 3 years. Mr Kunal has with him only ₹12,000. He wants to borrow the balance money of the down payment from a private lender whose terms are : if ₹6,000 is borrowed for 12 months, the rate of interest is 20%. The interest will be calculated on the whole amount for the whole year, even though the repayment has to be done in 12 equal monthly installments starting from the first month itself. Thus he will have to repay an amount of ₹600 per month for 12 months to repay ₹6000 (Principal) + ₹1200 (Interest @ 20%). If ₹10,000 upwards is borrowed for one year, the rate of interest is 30% and is calculated in exactly the same manner as above.

89. If Mr Kunal is ready to pay either of the down payments then which of the installment schemes is the better option of the two? (Assume that Mr Kunal will pay the installments out of his own earnings and he keeps his savings with himself and earns no interest on the same.) Also assume that instead of borrowing the remaining money for the down payment, he saves the balance before purchase.  
 (1) ₹1000 for 2 years    (2) ₹2000 for 3 years    (3) either of two                      (4) Data inadequate

90. What is the percentage difference in the total amount paid to the bike dealer between the two installment schemes (with respect to the total payment of the scheme with ₹25,000 down payment)?

- (1) 10.2% (2) 13.5% (3) 11.4% (4) None of these

91. If Kunal can spare only a total of ₹2000 to be paid to the bike dealer and the money lender from his monthly earnings starting from the first month onwards, which scheme should be chosen?

- (1) ₹1000 for 2 years (2) ₹1000 for 3 years (3) either of two (4) Data inadequate

**Directions (Questions 92-96):** The following table is based on the work record of 8 workers – L, M, N, O, P, Q, R and S who are working under the supervision of Gopinath on the 30<sup>th</sup> September.

Time	Workers							
	L	M	N	O	P	Q	R	S
09:30	E	B	C	B	F	E	F	D
10:30	G	A	B	D	A	D	B	B
11:30	G	C	F	B	B	E	B	E
12:30	B	B	B	D	C	C	D	B
01:30	B	B	G	C	B	A	A	B
02:30	C	A	E	F	D	E	D	A
03:30	A	F	A	B	E	D	E	A
04:30	B	C	B	G	B	C	C	F

- A = Talking informally  
 B = Working sincerely  
 C = Pretending to work  
 D = Sitting idle  
 E = Discussing about work  
 F = Not at work place  
 G = Disturbing others

Workers	L	M	N	O	P	Q	R	S
Leaves in September	5	2	4	0	10	6	8	9

The management allocated points for the workers as follows :

A = -2; B = 5; C = 1; D = 0; E = 4; F = -3; G = -4

92. The person, who got the highest points for his work on September 30, is

- (1) N (2) R (3) Q (4) P

93. If instead of Gopinath, Raghuram, who cannot identify a worker who is working pretending to work and considers him also as sincerely, is the supervisor. Then the worker with the minimum points will be  
 (1) O                      (2) S                      (3) L                      (4) M
94. If the total number of working days in September is 25 and all the workers get the same points as they obtained on September 30 for everyday that they have attended in September, then the person who will get the maximum points in the month of September is \_\_\_\_\_.  
 (1) N                       (2) M                       (3) O                       (4) P
95. The sum of the points of all the workers at a specific time is called the efficiency at that time, then at which of the following times of the day was the efficiency the lowest on September 30<sup>th</sup>?  
 (1) 10.30                       (2) 4.30                       (3) 3.30                       (4) 2.30
96. If on September 30<sup>th</sup>, any worker who gets a zero in any hour and was also not at his/her work place for any hour on that day is dismissed, then how many workers were not dismissed on that day?  
 (1) 1                       (2) 2                       (3) 3                       (4) 4

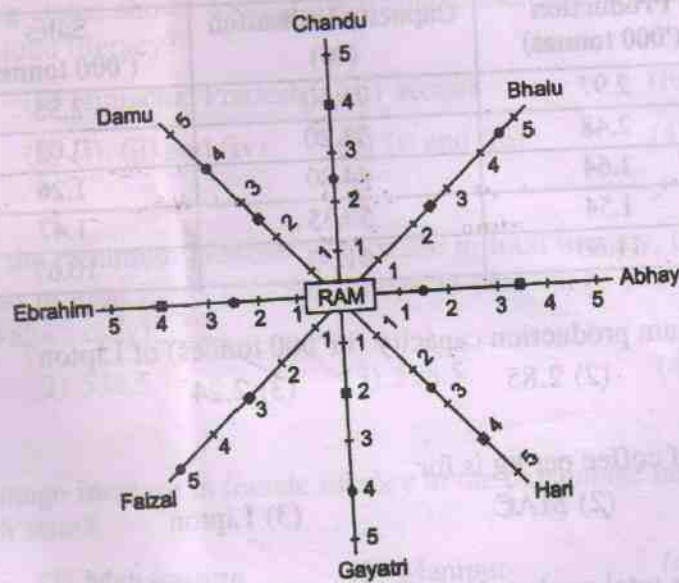
**Directions (Questions 97-101):** Answer these questions on the basis of the information given below. A newspaper vendor picks up copies of various newspapers from a centre and distributes them to his customers as per their subscription. Subscription means that the customer will receive a copy of that newspaper on all days throughout the month. On the last day of each month, he prepares the bill for each customer for that month and collects the payment on the 1<sup>st</sup> day of the next month. The details of various newspapers along with their retail price per copy on weekdays (Mon-Sun) are shown below. The customers are given bills according to the retail price of the copy of the newspaper they have subscribed to.

Newspapers	Days (Retail price per copy in ₹)							Total
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
NBT	2.00	3.00	2.00	2.00	3.00	2.00	3.00	17.00
TOI	2.00	2.00	2.00	2.00	2.00	2.00	4.50	16.50
HT	2.00	2.00	2.00	2.00	2.00	2.00	4.50	16.50
DJ	2.00	2.00	3.00	2.00	3.00	3.00	3.00	18.00
PK	3.00	2.00	2.00	3.00	2.00	3.00	3.00	18.00
ET	2.00	2.00	2.00	2.00	2.00	10.00	10.00	30.00
DB	2.00	3.50	2.50	2.00	2.00	2.50	2.50	17.00

97. The monthly bill of ₹74 is never possible for which of the following newspapers?  
 (1) NBT                       (2) DJ                       (3) DB                       (4) PK

98. The monthly bill of which of the following two newspapers cannot be equal for any month?  
 (1) DB and HT (2) PK and DJ (3) NBT and DB (4) DB and PK
99. In the month of August, subscription of which two newspapers can lead to the same amount on the monthly bill of a customer?  
 I. PK and NBT II. DJ and DB III. TOI and DJ IV. DJ and PK  
 (1) I and III (2) I and IV (3) I and II (4) IV only
100. The month's bill for Mr. Jackson is ₹200. Which newspapers did he possibly subscribe to?  
 (1) ET and TOI (2) PK, NBT and HT (3) NBT, DB and TOI (4) HT, TOI and DB
101. Mr. Sharma has subscribed for ET and PK only. If ₹x is the bill of Mr. Sharma for the month of April, then the bill will be  
 (1)  $200 \leq x \leq 218$  (2)  $200 \leq x \leq 217$  (3)  $201 \leq x \leq 218$  (4)  $201 \leq x \leq 217$

**Directions (Questions 102-105):** Refer to the data given in the diagram below and answer the questions that follow.



- Abhay, Bhalu, Chandu, Damu, Ebrahim, Faizal, Gayatri and Hari are Ram's friends. The above diagram gives the distance of each of their houses and time taken by Ram to visit each of them.
- Distance of particular person's house from Ram's house (Scale 1 division = 1.75 km).
  - Time taken by Ram to reach a particular person's house starting from his house (Scale 1 division = 1.2 hrs.)

102. Ram is travelling with maximum average speed, while going to  
 (1) Damu's house. (2) Bhalu's house. (3) Faizal's house. (4) Gayatri's house.
103. How much time will Ram take to reach Chandu's house, if he travels at the speed at which he travels to Hari's house?  
 (1) 4 h (2) 5.3 h (3) 4.8 h (4) 6 h
104. If Abhay's Ram's and Bhalu's houses are in a straight line, then how much time will Ram take to reach Bhalu's house from Abhay's house, if he is travelling at 0.5 km/h?  
 (1) 10.5 h (2) 6 h (3) 9.5 h (4) 3 h
105. Ebrahim, Faizal and Ram live in a straight line, such that Ram stays between Ebrahim and Faizal. How much time will Ram take to travel to Faizal's house from Ebrahim's house at the speed at which he travels to Abhay's house?  
 (1) 20 h (2) 12 h (3) 18 h (4) 21 h

**Directions (Questions 106-109):** Answer the questions based on the following table, which gives data about certain coffee producers in India.

	Production ('000 tonnes)	Capacity Utilisation (%)	Sales ('000 tonnes)	Total Sales Value (₹ crore)
Brooke Bond	2.97	76.50	2.55	31.15
Nestle	2.48	71.20	2.03	26.75
Lipton	1.64	64.80	1.26	15.25
MAC	1.54	59.35	1.47	17.45
Total (incl. Others)	11.60	61.30	10.67	132.80

106. What is the maximum production capacity (in '000 tonnes) of Lipton?  
 (1) 2.53 (2) 2.85 (3) 2.24 (4) 2.07
107. The highest price of coffee per kg is for  
 (1) Nestle (2) MAC (3) Lipton (4) Insufficient data
108. What per cent of the total market share (by Sales Value) is controlled by 'others'?  
 (1) 60% (2) 32% (3) 67% (4) Insufficient data
109. What approximately is the total production capacity (in tonnes) for coffee in India?  
 (1) 18,100 (2) 20,300 (3) 18,900 (4) Insufficient data

**Directions (Questions 110-115):** The following data shows the comparative data for state-wise literacy and population growth. Study the data carefully to answer these questions.

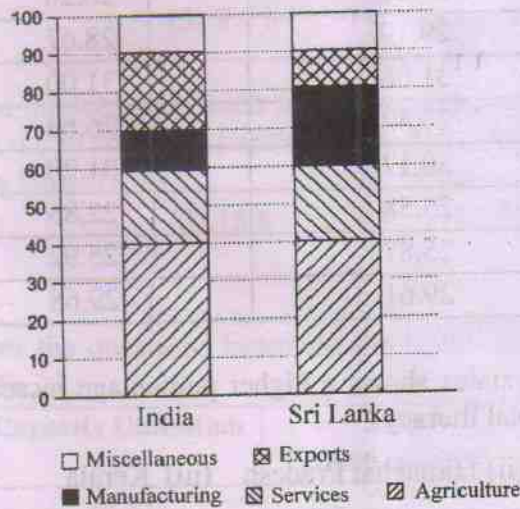
State	Percentage increase in		
	Total literacy (from 2001 to 2011)	Female literacy (from 2001 to 2011)	Change in % population growth rate (from 2001 to 2011)
Andhra Pradesh	25.17	23.32	+0.09
Bihar	22.34	19.48	-0.04
Gujarat	27.21	26.20	-0.53
Haryana	29.19	28.67	-0.11
Himachal Pradesh	31.06	31.00	-0.24
Karnataka	27.52	26.63	-0.47
Kerala	30.17	31.20	-0.43
Madhya Pradesh	25.58	22.86	+0.13
Maharashtra	25.87	25.92	+0.10
Manipur	29.61	29.68	-0.25

110. Which of the following states shows a higher percentage increase in female literacy than the percentage increase in total literacy?
- (i) Maharashtra      (ii) Himachal Pradesh      (iii) Kerala      (iv) Karnataka  
 (1) (i) only      (2) (i), (ii) and (iv)      (3) (i) and (iii)      (4) All these
111. For the state showing the minimum percentage increase in total literacy, the numerical ratio of the percentage increase in total literacy to the change in percentage population growth rate is nearly (take absolute values only) \_\_\_\_\_.
- (1) 508.5      (2) 558.5      (3) 598.5      (4) None of these
112. The ratio of the percentage increase in female literacy to the percentage increase in total literacy is maximum for which state?
- (1) Kerala      (2) Maharashtra      (3) Manipur      (4) Madhya Pradesh
113. The ratio of the overall simple average of the percentage increase in female literacy to the simple average percentage increase in female literacy of those states where the percentage increase is more than the overall average is \_\_\_\_\_.
- (1) 0.972      (2) 0.818      (3) 0.89      (4) 0.146

114. The ratio of the simple overall average of the percentage increase in female literacy to the simple overall average of the percentage increase in total literacy is approximately equal to \_\_\_\_.
- (1) 0.894                      (2) 0.968                      (3) 1.033                      (4) None of these

115. Which state exhibits the highest total literacy?
- (1) Himachal Pradesh    (2) Kerala                      (3) Manipur                      (4) None of these

**Directions (Questions 116-120):** The following bar chart shows the composition of the GDP of two countries (India and Sri Lanka)



*Handwritten notes:*  
 $10 + 40 + 20$   
 $30/99 \times 30$   
 $21000$

*Handwritten notes:*  
 $10000 \times \frac{20}{100}$   
 $\frac{20}{100}$   
 $\frac{20}{100} \times 100$   
 $\frac{20}{100} \times 100$

116. What fraction of India's GDP is accounted for by Services?
- (1)  $\frac{6}{33}$                       (2)  $\frac{1}{5}$ <sup>th</sup>                      (3)  $\frac{2}{3}$ <sup>rd</sup>                      (4) None of these
117. If the total GDP of Sri Lanka is ₹10,000 crore, then the GDP accounted for by Manufacturing is
- (1) ₹200 crore.                      (2) ₹600 crore.                      (3) ₹2,000 crore.                      (4) ₹6,000 crore.
118. If the total GDP of India is ₹30,000 crore, then the GDP accounted for by Agriculture, Services and Miscellaneous is
- (1) ₹18,500 crore.                      (2) ₹18,000 crore.                      (3) ₹21,000 crore.                      (4) ₹15,000 crore.
119. Which country accounts for higher earning out of Services and Miscellaneous together?
- (1) India                      (2) Sri Lanka  
 (3) Both spend equal amounts                      (4) Cannot be determined
120. If the total GDP is the same for both the countries, then what percentage is Sri Lanka's income through agriculture over India's income through services?
- (1) 100%                      (2) 200%                      (3) 133.33%                      (4) None of these

## SECTION-IV – REASONING AND LOGICAL ABILITY

**Directions (Questions 121-125) :** Each of these questions has a statement followed by two conclusions numbered as I and II. Consider the statement and the following conclusions. Decide which of the conclusions follows from the statement. Mark answer as

- (1) if conclusion I follows
- (2) if conclusion II follows
- (3) if neither conclusion I nor II follows
- (4) if both conclusions I and II follow

121. **Statement :**

There is mounting concern that water will be a flash point for political, social and economic turmoil.

**Conclusions :**

- I. Water faces an endemic global shortage.
- II. The scarcity of water will have serious repercussions on our lives.

122. **Statement :**

Cardiac myopathy is marked by an increase in the size of heart and decrease in the efficiency of pumping.

**Conclusions :**

- I. The bigger the size of heart the better it works.
- II. The efficiency of the heart is inversely proportional to the size of the heart.

123. **Statement :**

Some religious gurus preach austerity to poor while living in luxury and driving Mercedes.

**Conclusions :**

- I. Some of the frauds have donned the garb of religious god men.
- II. There is a world of difference between preaching and practising.

124. **Statement :**

Every natural remedy is not necessarily harmless and should be used with caution.

**Conclusions :**

- I. The natural remedies are not scientifically proven.
- II. Everything natural has no side effect.

125. **Statement :**

Summer heralds, the arrival of mosquito borne diseases such as malaria, dengue and chickunguniya.

**Conclusions :**

- I. Mosquito bites are harmless during winter, autumn and spring season.
- II. Mosquitoes breed rapidly during summers.



**Directions (Questions 126-128) :** Study the information below to answer these questions.

Five persons, Amrinder, Bishamber, Chidambaram, Digamber and Inder of a family eat grapes, apples, cherries, mangoes and pineapples not in the order as mentioned, after lunch, from Tuesday to Saturday. No member eats any fruit on Sundays and Mondays. Each member eats only one fruit on one day and does not repeat it during the same week. No two members can eat the same fruit on the same day.

- Inder does not eat cherries or grapes on Wednesday.
- Amrinder eats cherries on Tuesday.
- Digamber eats apples on Tuesday.
- Inder does not take pineapples on Tuesday but takes apples on Thursday.
- Bishamber eats pineapples on Friday.
- Chidambaram eats grapes on Saturday, cherries on Wednesday and mangoes on Thursday.
- Digamber eats pineapples on Wednesday.

126. Which fruit does 'Inder' eat on Wednesday?

- (1) Grapes                      (2) Pineapples                      (3) Apples                      (4) Mangoes

127. Who eats 'mangoes' on 'Tuesday'?

- (1) Inder                      (2) Amrinder                      (3) Bishamber                      (4) None of these

128. Which fruit can Chidambaram take on Tuesday ?

- (1) Grapes                      (2) Cherries                      (3) Apples                      (4) Pineapples

**Directions (Questions 129-131) :** Study the information below to answer these questions.

There are six boys in a group. Mahesh and Ramesh are in the Hockey team together. Parvesh has defeated Ramesh in badminton but lost to Suresh in tennis. Mahesh and Parvesh are in opposite teams of basketball. Naresh represents his state in cricket while Samresh does so at the district level. Boys who play chess don't play football, basketball or volleyball. Mahesh and Parvesh are together in the volleyball team. Boys who play football also play hockey. Suresh plays chess and competes with Ramesh. Naresh and Samresh are good footballers. Suresh also plays hockey and tennis quite well.

129. Name the boys who don't play the game of football?

- (1) Suresh and Naresh                      (2) Ramesh and Samresh  
(3) Ramesh and Suresh                      (4) Ramesh and Naresh

130. Which player plays the maximum number of games ?

- (1) Samresh                      (2) Ramesh                      (3) Parvesh                      (4) Naresh

131. Which is the most popular game with this group of boys ?

- (1) Cricket                      (2) Badminton                      (3) Hockey                      (4) Football



136. Who are staying in Top-Hill building ?

- (1) Anand, Pritam and Deepak  
(3) Anand, Varun and Pritam

- (2) Varun, Jasmeet and Pritam  
(4) Anand and Pritam

137. Who are living in Ridge building ?

- (1) Anand and Pritam  
(3) Deepak and Ujjawal

- (2) Varun, Anand and Pritam  
(4) Deepak, Anand and Pritam

**Directions (Questions 138-140) :** Study the Information below to answer these questions.

There are five friends in a group, namely Arvind Mohan, Barkat Rai, Chandram Singh, Daya Singh and Arjun Singh. All of them are engaged in different professions like they are horticulturist, physician, journalist, industrialist, and an advocate, though not in this order.

- Three of them, i.e., Arvind Mohan, Chandram Singh and the advocate prefer tea to coffee and two of them, i.e., Barkat Rai and the journalist prefer coffee to tea.
- Daya Singh, Arvind Mohan and the industrialist are very close friends but two of them prefer coffee to tea.
- The horticulturist is physician's brother.
- Chandram Singh did his MBBS from Bhopal and Arjun Singh got his law degree from Indore.

138. Who is the Horticulturist ?

- (1) Chandram Singh (2) Barkat Rai

- (3) Arvind Mohan (4) Daya Singh

139. Which of the following groups includes persons who like tea but none in the group is an advocate ?

- (1) Arvind Mohan, Chandram Singh and Arjun Singh  
(2) Daya Singh and Arjun Singh  
(3) Barkat Rai, Chandram Singh and Arjun Singh  
(4) Chandram Singh and Arvind Mohan

140. Who is the Physician ?

- (1) Arvind Mohan (2) Arjun Singh

- (3) Daya Singh (4) Chandram Singh

**Directions (Questions 141-145) :** In each of these questions, two Statements numbered as I & II are provided. These may have a cause and effect relationship or may have independent causes or be the effects of independent causes. Read the statements and mark answer as

- (1) if the statement I is the cause and statement II is its effect.  
(2) if the statement II is the cause and statement I is its effect.  
(3) if both the statements are effects of independent causes.  
(4) if both the statements are effects of some common cause.

141. Statement I :

Most of the private schools have increased the tuition fees in Delhi this year to meet their expenses.

Statement II :

The tuition fees in government-run schools have not been hiked in spite of the unexpected price rise witnessed this year.

142. Statement I :

The results of the students of science stream of class XII in the Kendriya Vidyalayas this year were excellent.

Statement II :

Many teachers of Kendriya Vidyalayas have left these schools and joined private schools.

143. Statement I : If we incorporate fruits as part of our meals, we avoid excess calories in our daily in-take. Fruits are wholesome and have a very high water content.

Statement II : Many fruits like watermelon or cucumber are calorie-burners as digesting them burns more calories than eating them.

144. Statement I : World Health Organization believes that one in 10 hospital admissions leads to an adverse event and one in 300 admissions in death. Unintended medical errors are a big threat to patient safety.

Statement II : American Medical Association claims and quantifies that there are nearly 2000 deaths due to unnecessary surgery. 7000 deaths from medication errors, 8000 deaths from infections and nearly 16000 deaths due to adverse effects of medicines.

145. Statement I : A bone ossification test conducted by AIIMS doctors has led to the release of a man who spent 11 years behind bars on charges of murder despite being a juvenile at the time of offence.

Statement II : As per the calculation done by High Court Judge, Fahrooq must have been not more than 17 years when he committed the crime and should have been tried as per the Juvenile Justice Act, and should not have been imprisoned for over 3 years for crimes including murder.

**Directions (Questions 146-150) :** In each of these questions, choose the missing term(s) out of the given alternatives.

146.

AS 23	CU 29	EW 31
GY 37	IA 41	KC 43
ME 47	???	QI 59

(1) NO 49

(2) PQ 50

(3) OG 53

(4) NK 51

147.

K <sub>7</sub>	L <sub>5</sub>	M <sub>3</sub>
L <sub>9</sub>	M <sub>7</sub>	K <sub>5</sub>
M <sub>11</sub>	L <sub>9</sub>	?

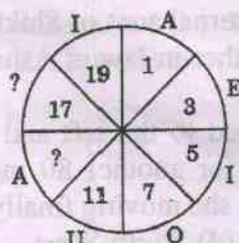
(1) J<sub>8</sub>

(2) K<sub>9</sub>

(3) K<sub>7</sub>

(4) N<sub>8</sub>

148.



(1) U and 15

(2) A and 16

(3) E and 13

(4) O and 14

149.

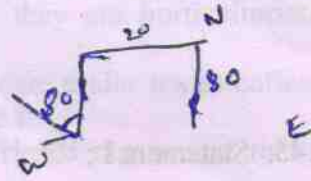
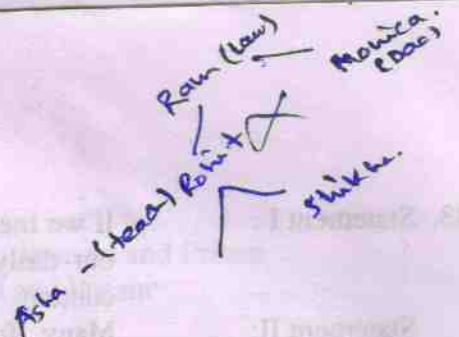
	A	D	G	J	
T	3	4	7	6	M
Q	2	6	5	8	P
N	1	8	9	2	S
?	14	116	?	104	V
	H	E	B	Y	

- (1) M and 125      (2) L and 145      (3) K and 155      (4) N and 165

150.

	A	E	I	M	
I	81	18	62	26	Q
E	39	93	63	36	U
?	15	51	45	18	Y
W	105	60	?	44	C
	S	O	K	G	

- (1) E and 85      (2) B and 90      (3) A and 80      (4) C and 70



**Directions (Questions 151-153) :** Read the following information to answer these questions.

- There is a family of seven persons representing three generations.
- There are two married couples. Both the wives are housewives and both have only two children.
- Ramcharan, the lawyer, is the father of Rohit and has two grand children.
- Monica, the doctor, is the sister of the teacher.
- Sudha's daughter-in-law Asha is married to a teacher.
- Shikha, the grand daughter of one of the housewives, is studying in the 8<sup>th</sup> standard.

151. What is the profession of Rohit ?

- (1) Student      (2) Lawyer      (3) Teacher      (4) Can't say

152. Which of the following groups is associated with all the three generations ?

- (1) Rohit, Asha and Shikha      (2) Ramcharan, Monica and Shikha  
 (3) Rohit, Monica and Shikha      (4) None of these

153. Which of the following statements is not true ?

- (1) Sudha has two grand daughters.      (2) The doctor is the paternal aunt of Shikha.  
 (3) The teacher is the son of Sudha.      (4) Ramcharan is the father-in-law of Asha.

154. Radhika moved a distance of 80 metres towards North. She then turned to the left and after walking for another 20 metres, turned to the left again. She walked for another 80 metres. Finally, she turned to the right at an angle of 45°. In which direction was she moving finally ?

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

155. Raghubir drove 15 km northwards by his car. He then turned towards West and drove for 10 km. He then drove towards South for 5 km and then turned towards East and drove for the next 8 km. Finally he turned to the right and drove for the next 10 km. How far and in which direction is Raghubir from his starting point ?

- (1) 5 km West      (2) 6 km South      (3) 2 km West      (4) None of these

156. Krishna walks for 10 km towards North. From here he walks back 6 km towards South. Then he walks 3 km towards East. How far and in which direction is he with reference to his starting point ?

- (1) 7 km East      (2) 7 km West      (3) 5 km East      (4) 5 km North-East

**Directions (Questions 157-160) :** Each of these questions has an assertion (A) and a reason (R).  
Mark answer as

- (1) if both (A) and (R) are true and (R) is the correct explanation of (A).  
(2) if both (A) and (R) are true but (R) is not the correct explanation of (A).  
(3) if (A) is true but (R) is false.  
(4) if (A) is false but (R) is true.

157. Assertion (A) : A person jumping out of the moving train falls forward because his feet suddenly come to rest, while his body is in motion with the train.

Reason (R) : This is based on Newton's first law of motion which states that a body continues to be in its state of rest or of uniform motion in a straight line unless compelled by an external force to change that state.

158. Assertion (A) : Gandhiji withdrew the Non-Cooperation Movement against British rule in India for some time.

(x) Reason (R) : Gandhiji believed in non-violence but the protestations by people against the British rule at Chauri-Chaura turned violent. This event disappointed Gandhiji.

159. Assertion (A) : A parachute enables a person to descend safely from a height in case of an accident.

Reason (R) : A parachute is made of a fabric with limited air permeability and has a very large frontal area. When it falls through air, it experiences heavy air resistance. The forces of lift and drag due to air flow balance the weight of the parachutist so that one descends at a constantly slow speed.

160. Assertion (A) : It is difficult to cook food on the hills.

Reason (R) : The atmospheric pressure on the hills is quite low because of which water starts boiling at a lower temperature and therefore it takes longer to cook food on the hills.