

JMET

FLT-I



Test ID: 7 7 1 3 9 1

Enrollment ID:

Name:

Centre:

Batch:

Time: Date:

Full Length Test

Instructions

1. DO NOT OPEN THE SEAL OF THIS BOOKLET.
WAIT FOR THE SIGNAL TO START.
2. This booklet contains 24 pages including the blank ones. Immediately after opening the booklet, verify that all the pages are printed properly.
3. Keep only the Admit Card, pencil, eraser and sharpener with you. DO NOT keep with you books, rulers, slide rules, drawing instruments, calculators (including watch calculators), pager, palmtops, cellular phones, or any other device. These should be left outside the room.
4. The Test Paper contains 120 questions. The duration of the test is 180 minutes.
5. The paper is divided into four sections.
Section-I: 30 Qs; **Section-II:** 30 Qs;
Section-III: 30 Qs; and **Section-IV:** 30 Qs.
6. Directions for answering the questions are given in the test booklet before each group of questions to which they apply. Read these directions carefully and answer the questions by darkening the appropriate ovals.
7. Each question carries 1 mark and every wrong answer carries a negative mark of 0.25. There is only one correct answer for each question.
8. Do the rough work on the test booklet only and NOT on the answer sheet or any other paper.
9. Follow the instructions of the invigilator. Candidates found violating the instructions will be disqualified.
10. At the end of the test, remain seated. Do not leave the hall till the invigilator announces, "You may leave now." The invigilator will make the announcement only after collecting the test booklets and answer sheets from everyone in the room.
ANY CANDIDATE GIVING/SEEKING/RECEIVING ASSISTANCE OR FOUND COPYING WILL BE IMMEDIATELY DISQUALIFIED

FLT-0004/10

Section – I

Directions for questions 1 and 2: Choose the alternative that is CLOSEST in meaning to the CAPITALISED word.

1. EXIGUOUS
a. excessive b. extra c. exact d. expand
2. INTREPID
a. indomitable b. intangible c. insatiable d. intemperate

Directions for questions 3 and 4: Carefully read the sentences given below and identify the grammatically INCORRECT option to fill in the blank.

3. A giant squid is still ____ marine biologists as it has never been seen alive making it impossible to study it in its natural habitat.
a. fascinating to b. enigmatic to c. dangerous to d. exploited by
4. In some of the poorest neighbourhoods of New York City, community gardens are springing up as ____ the filth and desolation of their urban surroundings.
a. an affirmation of b. a validation of c. a reaction to d. an amplification of

Directions for questions 5 to 7: Relate to the passage given below:

Zimbabwe's bakeries have shut and supermarkets have warned there will be no bread for the foreseeable future as the government admitted that wheat production has collapsed after the seizure of white-owned farms.

The agricultural ministry's announcement that the wheat harvest is only about a third of what is required, and that imports are held up by lack of hard currency, came as a deadline passed yesterday for the last white farmers to leave their land or face prosecution for trespass.

The maize harvest is expected to be equally dire and price controls to contain hyperinflation have emptied the stores of most other foodstuffs. The World Food Programme says at least 3 million people - one in four of the population - will need food aid in the coming months. It describes hunger in some parts of the country, which used to be a food exporter, as "acutely serious".

Last week, the government said it plans to import 100,000 tonnes of wheat but acknowledged that a shipment of 35,000 tonnes is held up in Mozambique because of a shortage of hard currency to pay for it. The agriculture minister, Rugare Gumbo, blamed the food shortages on black farmers who have taken over formerly white-owned land.

"I am painfully aware of the widespread theft of stock, farm produce, irrigation equipment and the general vandalism of infrastructure by our new farmers," he said.

"I am disappointed that our new farmers have proved to be failures since the start of the land reform programme in 2000. In spite of all the support government has been pouring into the agricultural sector, productivity and under-utilisation of land remain issues of concern."

The ministry of agriculture has also blamed power shortages for the wheat shortfall, saying that electricity cuts have affected irrigation and halved crop yields per acre.

The power shortages are likely to continue. Mozambique has reduced electricity supplies to Zimbabwe because of a \$35m (£17.1m) unpaid bill. Shortages of coal and spares for power stations and mining equipment have hit electricity production and power cuts are now a regular feature of daily life.

Zimbabwe, once the world's second largest exporter of tobacco, has also seen production of its main hard currency crop nosedive, further undermining its ability to buy food from abroad. This year's crop is not likely to be much better than recent harvests. Many farmers say that their seedlings have died for lack of irrigation.

Cigarettes are only available on the black market at many times the official price and now cost more than marijuana, a cash crop that does not appear to have been severely affected by the crisis.

The government's admission that the land redistribution has failed to deliver the promised boost to food production coincides with a deadline for the last white farmers to vacate their land. The farms were nationalised last year and the handover to the state was to be completed yesterday. Any farmer remaining on the land faces prosecution for trespassing on state property.

5. As per the passage, only **ONE** of the following statements is correct. Identify the correct statement.
- The wheat harvest is insufficient because only about half of the demand can be met.
 - The sole reason for the insufficient crop yield is power shortage.
 - White farmers have to leave their farms or face life imprisonment.
 - At one point of time there were some parts of the country which were food exporters.
6. The article **DOES NOT** talk about
- effect of privatization of farms
 - reasons for crop yield shortages
 - reason for holding back imports of wheat
 - result of the shortage of hard currency
7. The article implies that
- dire need for food supplies is required only in Zimbabwe
 - land owned by black farmers has now been taken over by white farmers and that is one of the major problems
 - there is more than one reason for shortage of food in the country
 - only wheat production has been affected and rest all other crops are easily available.

Directions for questions 8 and 9: Fill in the blanks with the options containing the MOST APPROPRIATE set of words.

8. Thus far predictions that global ____ would lead to mass starvation have proven false; however in the years to come population ____ may yet prove to be one of the world's greatest problems.
- | | |
|----------------------------|------------------------------|
| a. pollution ... expansion | b. overcrowding ... growth |
| c. poverty ... density | d. deforestation ... control |
9. The idea of children's literature ____ in the late 18th century when educators first decided that children needed special ____ of their own.
- | | |
|-----------------------|---------------------------|
| a. emerged ... books | b. changed ... reading |
| c. grew ... treatment | d. developed ... training |

Directions for questions 10 and 11: Choose the option which is OPPOSITE in meaning to the CAPITALIZED word.

10. EGALITARIAN
a. bourgeois b. despotic c. laissez-faire d. libertarian
11. CONSUEITUDE
a. rule b. rut c. rarity d. routine

Directions for questions 12 to 15: Refer to the passage given below:

Psychologists interpret narcissism as a compensation mechanism. Many business narcissists believe they have been wronged in the past and that they are 'owed'. Their feeling of insecurity can be satisfied only by regular adulation, affirmation and recognition.

One of the most frequently observed characteristics of the narcissist is capriciousness — inconsistent, erratic and unpredictable behaviour.

Naturally, most psychologists believe its origin lies in early childhood. They blame the inconsistent parent who was attentive to all outward, public signs of achievement and success but blind to (or worse) disapproving feelings. This inconsistency often leads to young adults being confused and never developing a clear sense of who they are or establishing a coherent value system. They are 'not comfortable in their own skin'. This can and does result in a lifelong quest for full self-regard and self-assertion. The wells of the origin of the problem are both deep and murky, and the passions they engender seem remorseless. The narcissist is plainly dysfunctional. He or she fails to understand or appreciate others, be they colleagues, subordinates or clients. They often see people as possessions whose main function is to be an accessory in their pursuit of fame and glory. People at work are used to reflect their glory. Do any great business figures spring to mind at this point?

Personal and work relationships for narcissists are particularly interesting. If the narcissist's 'other half' is prepared to offer continual, unconditional admiration, all is well. But they have to direct all their efforts, all the time, to minister to the need of their master to overcome the inner emptiness and worthlessness he or she is experiencing. Naturally, narcissists search them out because they are rare, probably equally dysfunctional people, labelled, 'complementary narcissists' — they could also be called, 'complimentary narcissists'.

12. Which of the following statements CANNOT be inferred from the passage?
a. Narcissists seek continual admiration and devotion from their partners.
b. Good parents guide the growth and development of narcissistic behaviour in their children.
c. Inconsistency and unpredictability are the main traits of narcissistic behaviour.
d. A narcissistic person considers other people as mere accessories or tools which can aid in achieving success.
13. The MOST APPROPRIATE title for the passage might be
a. 'Effects of Narcissism'
b. 'Understanding Narcissism'
c. 'The Narcissist and the Society'
d. 'Narcissistic behaviour at workplace'.

14. According to the passage, a narcissist:
- thrives on the adulation provided by society
 - behaves with consistent predictability
 - seeks out the rarest of qualities in people
 - is a result of inconsistent parenting.
15. The word 'inconsistent parent' which has been used in the above passage means:
- a parent who does not care about the behaviour of his child at a social gathering
 - a parent who does not care about his child's feelings
 - a parent who does not care about the innermost feelings of his child but only worries about his social success
 - a parent who is not interested in the development of his child.

Directions for questions 16 to 18: Select the pair of words that best express a relationship SIMILAR to the pair in CAPITAL letters.

16. FAÇADE : BUILDING
- | | |
|--------------------|--------------------------|
| a. Mask : Face | b. Architect : Structure |
| c. Girder : Bridge | d. Tire : Spoke |
17. MIND : MATTER
- | | |
|-----------------------------|------------------------|
| a. Hypothesis : Speculation | b. Mental : Derelict |
| c. Hearsay : Evidence | d. Abstract : Conceive |
18. CELIBATE : MARRIAGE
- | | |
|----------------------|-------------------------|
| a. Festive : Gay | b. Teetotaler : Alcohol |
| c. Divorce : Custody | d. Brazen : Solder |

Directions for question 19: One of the option is grammatically INCORRECT. Identify the INCORRECT option.

- 19.
- They have been serving in the army for the last seven years.
 - They have been looking after the estate since 1987.
 - For the last semester the students have not been able to cope with the new syllabus structure.
 - We have been looking for an apartment in this neighbourhood but no one has been able to help us.

Directions for question 20: The direct speech in this question has been rewritten as reported speech (indirect form) in the four options given below. Identify the grammatically CORRECT option.

20. She said "I have not been informed about the latest development within the organisation as well as the individual departments."
- She said that she had not been informed about the latest developments within the organisation, as well as in the individual departments.
 - She said that she hadn't informed about the latest development with in the organisation well in the individual departments.
 - She said, she has to be informed about the latest development within the organisation well into the individual departments.
 - She said she have not been informed about the latest development in the organisation and well into the individual departments.

Directions for Question 21: This question consists of four groups of jumbled phrases, only ONE of which is grammatically correct. Identify the CORRECT option.

21. a. almost readers/ which produces novels/ still prefer a conventional plot and simple style/ regardless of the new modernization in literature/ that often read like diaries of madmen.
 b. with the power of his brush /he blurs/ the distinctions among/ and the skillfulness of his mind/ high art and commercialization.
 c. of retaliation would be a disaster/ analysts and columnists/ which would wipe out the entire human race/ agree that such a war.
 d. a group of little boys / but a well behaved and civilized group/ Golding's most famous novel concerns / that resorts to murder and savagery/ without adult supervision.

Directions for questions 22 to 24: Related to the passage given below:

As long as music has been recorded questions of authenticity and artifice have arisen. There are innumerable examples of artists being lambasted for their insincerity or praised for their integrity and the 'genuine' quality of their songs.

Whether it's some long dead Appalachian musician being held up as the last word in musical purity or John Lennon being trashed for the supposed hypocrisy of his "imagine no possessions" line, music has always ignited such troublesome and often spurious arguments. Perhaps it's because music can possess such direct emotive power that we often seem to place unrealistic expectations (on musicians) which we would not necessarily apply to filmmakers or writers.

Teenage music fans in particular seldom allow for much distance between musicians and their subject matter. For your average teenage listener there is a direct equation between how doomed (or indeed dead) a musician is and how meaningful their records are. Hugh Barker and Yuval Taylor's book *Faking It: The Quest for Authenticity in Popular Music* suggests that music has always been subject to such vicarious fantasy and confused notions of sincerity.

In contrasting artists who are taken seriously for their supposed lack of artifice with those whose music is generally understood to be contrived, *Faking It* produces some interesting arguments. The overall message seems to be that all recorded music involves an element of fabrication; that catering to an audience will always take precedence over personal expression.

22. Which of the following statements, in the light of the above passage, is NOT correct?
- a. Fans expect musicians to produce sincere compositions in comparison to the works presented by filmmakers.
 b. Music has a direct relationship with human emotions.
 c. Teenage fans expect musicians to present contemporary, relevant and modern compositions.
 d. Authenticity and artful contrivance have been in question ever since music has been composed and recorded.
23. The MOST APPROPRIATE title for the passage is :
- a. 'Music for real'
 b. 'Music in the modern era'
 c. 'Authenticity and art forms'
 d. 'Modern musical renditions – authentic or contrived'

24. Which of the following statements CANNOT be inferred from the passage?
- a. Integrity and authenticity in music is important for the artist.
 - b. Catering to an audience is the prime factor which surpasses authenticity in expression.
 - c. Teenage fans measure the reputation of an artist on the basis of the authenticity in his lyrics.
 - d. A number of artists have been blamed for hypocritical lyrics.

Directions for questions 25 to 27: Identify the grammatically CORRECT option

25.
 - a. He took his revenge by tearing away all articles.
 - b. Despite of the usual chaos, the platform was buzzing with the sound of local musicians.
 - c. The booklet comprises of a map to various tourist destinations and emergency phone numbers.
 - d. She was conscious for forty minutes before she relapsed into a coma.
26.
 - a. One must identify his goal and work hard to achieve it.
 - b. If I were the captain of the football team, I would have loved to make the winning goal.
 - c. The publisher has been pestering the writer to complete the first draft of the book who is due for release in April.
 - d. In the summertime, the market is flooded with traders also tourists appear only after winter season is over.
27.
 - a. The team has been able to develop a good and tactful strategy which is relevant.
 - b. The team has been able to develop good, tactful strategy that is relevant.
 - c. The team has been able to develop a good, tactful and relevant strategy.
 - d. The team has been able to develop a good, tactful strategy of relevance.

Directions for questions 28 to 30: Select the set of words that best expresses a relationship SIMILAR to the set in CAPITALS.

28. NOTES: COINS: MONEY
- | | |
|-------------------------|-------------------------------|
| a. Silk : Worm: Dress | b. Vegetables : Spices : Dish |
| c. Dalmatian: Pug : Dog | d. Brain : Cells: Nerves |
29. ENEMY : WEAPONS : ARMY
- | | |
|-------------------------------------|------------------------------|
| a. Earthquake : Tremors : Landslide | b. Disaster : Aid : Refugees |
| c. Flood : Sand bags : Water | d. Fire : Water : Firemen |
30. TREE : WATER: PLANT
- | | |
|-------------------------|--------------------------------|
| a. Paper : Book : Bind | b. Composition: Music : Lyrics |
| c. Heart : Beat : Blood | d. Feet : Shoe : Walk |

Section – II

Directions for questions 31 to 35: Answer the questions on the basis of the information given below. Six books namely A, B, C, D, E and F are placed side by side. C, B and E have blue covers and other books have red covers. Only D and F are new books and the rest are old. A, C and D are books on law whereas rest are gazetteers.

31. Which book is a new book on law and has a red cover?
a. A b. B c. C d. D
32. Which two books are old gazetteers with blue cover?
a. B and C b. B and E c. B and F d. E and F
33. Which red covered gazetteer is a new book?
a. B b. D c. E d. F
34. Which one of the following is the old book of a gazetteer?
a. C b. D c. E d. F
35. Which one is old blue covered book on law?
a. A b. B c. C d. D

Directions for questions 36 to 40: Answer the questions on the basis of the information given below. The first National airlines has five destinations namely S, T, U, V, and W. The flight system that connects the destinations is not working properly. The destination managers have determined that they can arrange for direct flights from their destinations to certain other destinations.

Direct flights are only from:

- S to V
- T to S and U
- U to T
- V to T
- W to S & U

36. Which of the following destinations cannot be connected from any other destinations, either directly or through any connecting flight?
a. T b. U c. V d. W
37. From which of the following destinations can one travel to S through exactly one connecting flight?
a. T only b. U only c. U and V d. T and W
38. In which of the following ways one can travel from T to V?
a. Take a direct flight from T to V.
b. Take a direct flight to S and from there a connecting flight to V.
c. Take a direct flight to U and from there a connecting flight to V.
d. Take a direct flight to W and from there a connecting flight to V.

39. How many destinations are not directly connected with destination T?
 a. 0 b. 1 c. 2 d. None of these
40. If no flight can land or takeoff from T and all other routes are open, which of the following routes can be taken directly or through a series of connecting flights?
 a. U to V b. U to S c. V to U d. W to V

Directions for questions 41 to 43: Answer the questions on the basis of the information given below. Five people are to be interviewed namely A, B, C, D and E from Monday to Friday within a single week according to the following conditions.

- i. A must be interviewed before E
 - ii. B's interview is scheduled on Wednesday
 - iii. D must be interviewed on first two days of the week.
 - iv. E must be interviewed on the day just before the day on which C is interviewed.
 - v. Only one person is interviewed on a particular day.
41. Which of the following is the right arrangement of the sequence of the interviews?
 a. A, B, C, D, E b. D, A, B, E, C c. A, D, B, C, E d. C, E, B, A, D
42. D's interview can be followed by the interview of which of the following persons?
 a. E, B b. A, B c. A, E d. C, E
43. If A is interviewed on Tuesday then D can be interviewed only on
 a. Monday b. Thursday c. Friday d. None of above

Directions for questions 44 to 46: Answer the following questions on the basis of the information given below

44. A team of researchers has claimed that the deadly scorpions of the Sahara desert do not bother to waste venom on killing a victim, if they don't have to. Instead, they use a pre-venom that causes extreme pain, resorting to the deadlier version only when necessary.

Which of the following best supports the conclusion reached by the researchers?

- a. The pre-venom is more easily produced in the scorpion than the venom that kills.
 - b. No person stung by the deadly scorpion of the Sahara desert has so far survived the sting.
 - c. Some people stung by the deadly scorpion of the Sahara desert lived for weeks before succumbing to death.
 - d. Some people have actually survived the sting of the deadly scorpion.
45. Political language consists largely of euphemism, question-begging, and sheer cloudy vagueness. Political language is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind.

Which of the following can be conclusively inferred from the above:

- a. Politicians would find it more difficult to deceive people without political language.
- b. Politicians know only the political language, hence cannot help deceiving people.
- c. An assembly of only politicians will not produce any results because the language they use is in itself flawed.
- d. Political language is a corruption of the language created with the sole purpose to deceive others.

46. The common use of the same types of antibiotics in medicine has two effects that are particularly worrisome. First, antibiotics can kill not only the infection, but also the bacteria that fight infections naturally. Second, antibiotics can give rise to drug-resistant infections, making it more difficult to treat patients.

Based on the passage above, the effectiveness of the continued common use of antibiotics can be extended by doing which of the following?

- a. Gradually increasing the amount of antibiotics used.
- b. Not treating patients with antibiotics.
- c. Increasing research on drug-resistant infections.
- d. Periodically switching the type of antibiotic used.

Directions for questions 47 to 51: Read the following arguments and answer the questions that follow.

47. The best movie showing in India right now is Khiladi No. 45 — it has been in the No. 1 slot for six weeks.

Which of the following statements can weaken the argument?

- a. Popularity ratings are a good indicator of the quality of a movie.
- b. No movie has held the No. 1 slot for more than three weeks.
- c. A popular movie is not necessarily a good movie.
- d. None of the above

48. With reference to question 47, which of the following statements can strengthen the argument?

- a. Khiladi No. 45 is an adult-rated movie.
- b. The audience for movies mostly comprise of upper-class citizens.
- c. Critics believe that a popular movie is generally considered as a good movie.
- d. None of the above

49. All boys are hyper. Therefore, Siddharth is hyper.

What is the missing assumption that supports the above argument?

- a. Girls are not hyper.
- b. Boys and girls are not hyper.
- c. Siddharth can be a girl.
- d. Siddharth is a boy.

50. The Municipal Commissioner has recently suggested adding chlorine to all public water sources. This is obviously a bad idea since many of the totalitarian regimes also added chlorine to all their public water sources.

What is the assumption on which this argument is based?

- a. The Municipal Commissioner is ill-informed.
- b. The totalitarian regimes could not provide better service to the public with the said measure.
- c. The Municipal Commissioner has leftist tendencies.
- d. None of the above

51. With reference to question 50, which of the following statements can weaken the argument?
- The Municipal Commissioner is implementing the plan under very different circumstances.
 - The totalitarian regimes did not have healthy intentions.
 - The Municipal Commissioner is not aware of the totalitarian measure.
 - None of the above

Directions for questions 52 and 53: Answer the questions on the basis of the information given below.

- (1) A cube has six faces each of the faces having a different colour .
- (2) The face which is coloured red is opposite to the face which is coloured black.
- (3) The face which is coloured green is in between the faces coloured red and black.
- (4) The face which is coloured blue is adjacent to the face which is coloured white.
- (5) The face which is coloured brown is adjacent to the face coloured blue.
- (6) The face of the cube at the bottom is coloured red.

52. The face of the cube which is opposite to the face coloured brown is
- Red
 - Black
 - White
 - Green

53. The four colours adjacent to the face of cube coloured green are
- Red, Black, Blue and White
 - Red, Black, Brown and Blue
 - Red, Black, Brown and White
 - Red, Black, Blue and White

Directions for questions 54 to 56: In the following questions, there are four sentences labelled A, B, C and D. Arrange the sentences in a logical order to make a coherent paragraph.

54. A. Information Technology, television and the media in general are some examples.
B. The proof lies in the fact that the areas of economic activity free from government control have boomed.
C. The dictatorship of the petty official and the corrupt politician has prevented and continues to prevent India from being a rich, developed country.
D. So the lesson should be that whenever there has been democracy in economic activity there has been progress and prosperity.
- BACD
 - CABD
 - CDBA
 - CBAD
55. A. Unlike most of the world's volcanoes, they are not always found at the boundaries of the great drifting plates that make up the earth's surface; on the contrary, many of them lie deep in the interior of a plate.
B. The hot spots and their volcanic trails are milestones that mark the passage of the plates.
C. Scattered around the globe are more than 100 small regions of isolated volcanic activity known to geologists as hot spots.
D. Most of the hot spots move only slowly, and in some cases the movement of the plates past them has left trails of extinct volcanoes.
- CADB
 - BCAD
 - DCBA
 - BADC

56. A. Thousand and one are the hazards of the journey, many are the pitfalls - and the seed is secure, hidden inside a hard core.
B. Immediately the fight starts: the struggle with the soil, with the stones, with the rocks.
C. But the seed tries, it makes an effort; it drops the hard shell, which is its security, it starts moving.
D. And the seed was very hard and the sprout will be very, very soft and dangers will be many.
- a. BACD b. DCAB c. ABCD d. ACBD

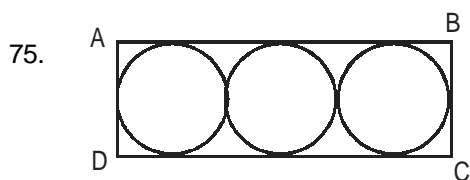
Directions for questions 57 to 60: Study the following statements and mark:

- a. if only inference I follows.
b. if only inference II follows.
c. if both the inferences follow.
d. if neither inference follows.
57. All cats are dogs. Some cats are rats. So,
I. Some rats are dogs.
II. Some dogs are rats.
58. No turtle is a sparrow. All turtles are hens. So,
I. No hen is a sparrow.
II. No sparrow is a hen.
59. Some birds are elephants. Some elephants are ants. So,
I. Some birds are ants.
II. Some ants are birds.
60. All pedestrians are poor. All poor are sincere. So,
I. All sincere are pedestrians.
II. All pedestrians are sincere.

Section – III

61. Ammar drives his car at twice the speed of an auto-rickshaw. One day, he drove the car for 10 min after which, the car broke mid-way. He left the car and took an auto to reach the office. It took him 30 min from the point where the car broke, to reach the office. What would be the total time taken to reach the office if he travels, only by car?
- a. 25 min b. 20 min c. 27 min d. 36 min
62. The least common multiple of two natural numbers x and y , is 399. What is the minimum possible sum of the digits of the number x (given $x > y$)?
- a. 3 b. 7 c. 1 d. None of these
63. ITC increased the selling price of their cigarette brand "Gold Leaf" by 20% because of which their profit percentage increased from 10% to 15%. What was the corresponding percentage increase in the cost price of the cigarette brand "Gold Leaf" ?
- a. 14.78% b. 11.11% c. 9.09% d. 7%
64. A beaker contains alcohol and water in the ratio 4:1. When 15 L of this mixture is replaced with water, the ratio of alcohol and water in the beaker becomes 1:4. How many liters of alcohol was present initially in the beaker?
- a. 24 liters b. 16 liters c. 20 liters d. 12 liters
65. If 7 and 2 are two roots of the following equation
- $$\begin{vmatrix} x & 3 & 7 \\ 2 & x & 2 \\ 7 & 6 & x \end{vmatrix} = 0$$
- , then its third root will be
- a. -9 b. 14 c. $\frac{1}{2}$ d. None of these
66. Kapil invested Rs. 75000 in a fixed deposit at 15% compound interest for 2 years. At the end of the 2 years, he invested the total amount in funds at 12% simple interest for the next 3 years. What will be the final value of the initial investment?
- a. Rs.1,24,680 b. Rs.1,15,500 c. Rs.1,34,895 d. Rs.1,20,400
67. If $a^{3-x}b^{5x} = a^{x+5}b^{3x}$, then $x \log \left(\frac{b}{a} \right)$ is equal to
- a. $\log a$ b. $\log b$ c. $x \log a$ d. None of these
68. From a point X, on the surface of a sphere of radius 3 cm, two ants "Chinti" and "Pinti" started moving along two different circular paths, each having the maximum possible radius, on the surface of the sphere, that lie in two different planes which are inclined at an angle of 45° to each other. If Chinti and Pinti take 18 sec and 6 sec respectively, to complete one revolution along their respective circular paths, then after how much time will they meet again for the first time, after they start from X?
- a. 27 seconds b. 18 seconds c. 9 seconds d. Never

69. If $X = \{4^n - 3n - 1 : n \in \mathbb{N}\}$ and $Y = \{9(n - 1) : n \in \mathbb{N}\}$, then
 a. $X \subseteq Y$ b. $X \subset Y$ c. $Y \subseteq X$ d. $Y \subset X$
70. A petrol pump owner sells petrol after marking up the cost price, by 5%. He has calibrated the meters in such a way that he actually supplies only 900ml of petrol against a meter reading of one liter. What is his profit percentage ?
 a. 16.66% b. 14.28% c. 10% d. 9.52%
71. In an examination there are 6 subjects, each with equal maximum marks. The marks scored by a student in the six subjects, are in the proportion of 2 : 3 : 4 : 5 : 6 : 7. If his aggregate score is 55% of the maximum marks, then in how many subjects did he score more than 40% of the maximum marks?
 a. 5 b. 3 c. 2 d. 4
72. Two solutions, the first of which contains 0.8 kg and the second 0.6 kg of salt, were mixed together to form 10 kg of a new salt solution. Find the respective weights of the first and the second solution, if the first solution is known to contain 10% more salt than the second solution.
 a. 3 kg and 7 kg b. 4 kg and 6 kg c. 4 kg and 9 kg d. 5 kg and 9 kg
73. There is a trapezium with parallel sides as 4 cm and 6 cm. If distance between their parallel sides is a integer, then which of the following cannot be the area of this trapezium?
 a. 45 cm^2 b. 20 cm^2 c. 5 cm^2 d. 46 cm^2
74. If $f(x) = 1 + x + \frac{1}{x}$ for all real 'x', then find the value of $f\left(\frac{1}{x}\right) + f(x)$.
 a. $f(x) - f\left(\frac{1}{x}\right)$ b. $f\left(\frac{1}{x}\right) - f(x)$ c. $2f\left(\frac{1}{x}\right)$ d. $[f(x)]^2$



In a rectangle ABCD three identical circles are drawn as shown in the figure. AB and CD are tangents to all the three circles. Find the ratio of the area of the rectangle to the area of the rectangle which is not common to any of the circles

- a. $\frac{\pi - 2}{2}$ b. $\frac{4}{4 - \pi}$ c. $\frac{4 - \pi}{4}$ d. $\frac{2}{\pi - 2}$

76. A hare pursued by a greyhound, is 50 leaps (of its own) ahead of the greyhound. In the time the hare takes 4 leaps, the greyhound takes 3 leaps. In its one leap, the hare covers $1\frac{3}{4}$ m and the greyhound covers $2\frac{3}{4}$ m in its one leap. In how many leaps will the greyhound overtake the hare?

a. 210 b. 180 c. 224 d. 315

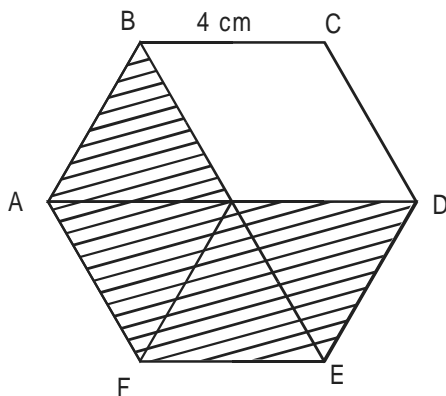
77. In an assembly line, three robotic arms namely R_1 , R_2 and R_3 are working together. R_1 alone takes 10 hrs to complete a single product but R_2 and R_3 working together take 4 hrs, for the completion of the same product. If all of them worked together and completed 14 products, then for how many hours have they worked?

a. 20 hrs. b. 28 hrs. c. 40 hrs. d. 54 hrs.

78. What is the sum of the first 100 terms of the given series $\frac{1}{\sqrt{2} + \sqrt{5}} + \frac{1}{\sqrt{5} + \sqrt{8}} + \frac{1}{\sqrt{8} + \sqrt{11}} + \dots$?

a. $\frac{\sqrt{2}}{3}(\sqrt{191} - 1)$ b. $\frac{\sqrt{2}}{3}(\sqrt{101} + 1)$ c. $\frac{\sqrt{2}}{3}(\sqrt{151} - 1)$ d. None of these

79.



ABCDEF is a regular hexagon of side 4 cm. What is the area of the shaded portion?

a. $4\sqrt{3}$ cm² b. $12\sqrt{3}$ cm² c. $8\sqrt{3}$ cm² d. $16\sqrt{3}$ cm²

80. If the sum of first 50 terms of an AP to the sum of first 100 terms of the same AP is 1 : 3, then find the ratio of the first term of the A.P. to the common difference of the A.P.

a. 26 : 1 b. 24.5 : 1 c. 25 : 1 d. 25.5 : 1

81. Find the value of $\int_0^1 \frac{2x^4 - 3}{x^2 + 1} dx$
- a. $-\left(\frac{4}{3} + \frac{\pi}{4}\right)$ b. $\frac{-\pi}{2} + \frac{1}{3}$ c. $-1 - \frac{\pi}{4}$ d. $\frac{-\pi}{2} + \frac{3}{4}$
82. A vertical tower stands on a declivity which is inclined at 15° to the horizontal plane. From the foot of the tower a man climbs 80 ft on the declivity from where, he finds that the tower subtends an angle of 30° . Find the height of the tower.
- a. $20(\sqrt{6} - \sqrt{2})$ ft b. $40(\sqrt{6} - \sqrt{2})$ ft c. $40(\sqrt{6} + \sqrt{2})$ ft d. None of these
83. Ramu, standing at some distance from the bank of a river, observes that the angle of elevation of the top of a tree on the opposite bank, is 30° . When he moves 40 m towards the tree, he reaches the bank of the river where he finds the angle of elevation of the top of the tree to be 60° . What is the width of the river?
- a. $40\sqrt{3}$ m b. $20\sqrt{3}$ m c. 40 m d. 20 m
84. An insurance agent sold two policies, A and B. Monthly premium on A is Rs. 150, and that on B is Rs. 26.50. If a person takes both, he gets a discount of Rs. 50 on monthly premium of policy A. In an office where everybody took at least one policy, 14 people took policy A, and 8 people took policy B, what is the minimum monthly collection of the insurance agent?
- a. Rs. 2,312 b. Rs. 2,012 c. Rs. 1,912 d. Rs. 2,212
85. In the Olympics, 4×400 m relay race a team consists of 4 players. Each member of the team covers a distance of 400 m. The US team, comprising of Powell, Greene, Lewis and Johnson won the race. The total time taken by the US team to complete the race was 3 minutes and 48 seconds. If the speed of Powell, Greene, Lewis and Johnson was 22 km/hr, 18 km/hr, 19 km/hr and 20 km/hr respectively, then the ratio of the time taken by Greene to that taken by Johnson is
- a. 15:11 b. 10:9 c. 11:15 d. 9:10
86. If the probability of M hitting the target is $\frac{1}{8}$ and that of N hitting the same target is $\frac{2}{5}$, then the probability that either M or N but not both of them, hit the target is
- a. $\frac{19}{40}$ b. $\frac{17}{40}$ c. $\frac{17}{35}$ d. $\frac{19}{44}$
87. Roohafza, a soft drink, is made by mixing two ingredients:- rose syrup and sugar syrup in the proportion 3:5. The price of rose syrup is four times the price of sugar syrup. The total cost of production of one bottle of Roohafza is Rs. 80, which includes Rs. 12 as the cost of packing. What is the cost of rose syrup used in a bottle of Roohafza?
- a. Rs. 24 b. Rs. 36 c. Rs. 48 d. Rs. 56

88. The parabola $y^2 = 8x$ makes an intercept of length 'K' units on the line $4y = 8x + 3$. Find the value of K.
- a. 4 b. 25 c. $\frac{\sqrt{65}}{4}$ d. $\frac{\sqrt{243}}{4}$
89. In how many ways can 3 girls and 9 boys be seated in two vans, each having numbered seats, 3 in the front and 4 in the back?
- a. $12!$ b. $3!4!$ c. ${}^{14}P_{12}$ d. None of these
90. How many solutions exist for the following system of equations?
 $|x| + 1 = y$ and
 $|y| + 1 = x$
- a. 1 b. 2 c. 4 d. None solutions

Section – IV

Directions for questions 91 to 96: Answer the questions on the basis of the information given below. The following table gives information about the height, weight and age of 8 persons namely A, B, C, D, E, F, G and H. The height, weight and age of all persons is always an integral value in inches, kgs and years respectively.

Name	Height	Weight (in kgs)	Age (in years)
A	5'6"	60	22
B	5'10"	84	25
C	5'3"	54	24
D	5'3"	70	20
E	5'	66	22
F	5'8"	85	26
G	5'6"	78	23
H	5'10"	70	24

Height is given in terms of feet and inches. For e.g. 5'4" = 5 feet and 4 inches (where 1 feet = 12 inches).

Health index (h) is defined as the ratio of weight (in kgs) and height (in inches).

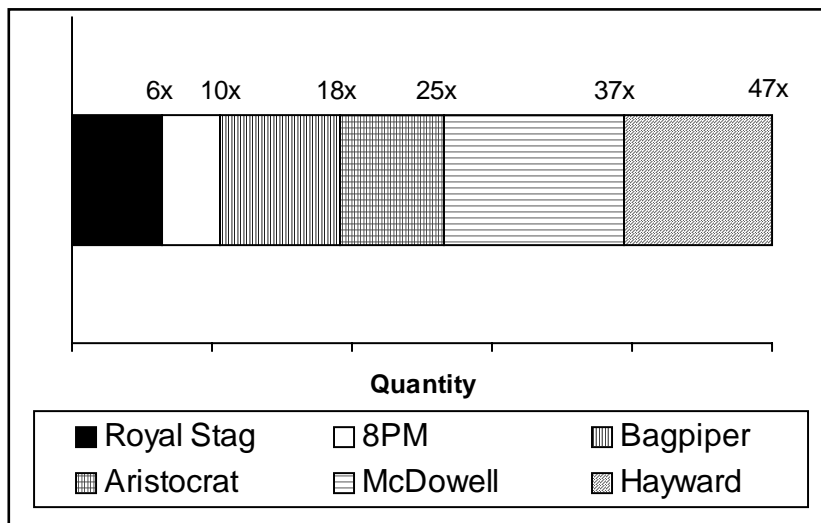
- If $h < 0.9$ then the person is termed "underweight".
- If $0.9 \leq h \leq 1.15$ then the person is termed "fit".
- If $h > 1.15$ then the person is termed "overweight".
- If the ratio of height (in inches) and age (in years) of a person is not less than 3 then the person is termed "alpha".
- If the ratio of weight (in kgs) and age (in years) of a person is not less than 3 then the person is termed "beta".
- A person who is termed as alpha, beta and fit is termed "Mr. Right".
- A person who is termed as both alpha and fit is termed "Mr. Bright".
- A person who is termed as both beta and fit is termed "Mr. Tight".

91. What should be the minimum change in the height of D (weight remaining unchanged) so that he/she is no longer termed "fit"?
a. 5 inches b. 1 inches c. 2 inches d. 3 inches
92. How many persons are "Mr. Right"?
a. 0 b. 1 c. 2 d. 3
93. What is the difference between the number of persons who are termed "beta" and those who are termed "alpha"?
a. 2 b. 3 c. 5 d. 4

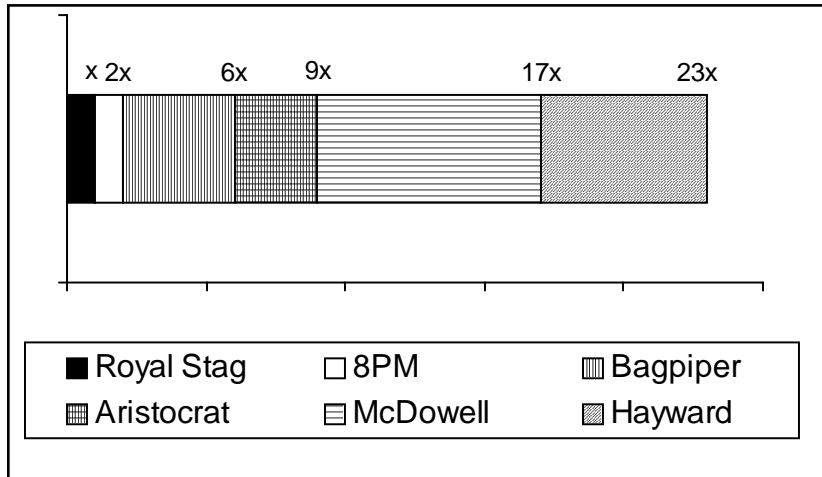
94. What is the ratio of maximum change in height (in inches) required by any person to become “alpha” and minimum change in weight (in kgs) required by any person to become “beta” (age remaining unchanged)?
 a. 5:1 b. 2:1 c. 1:1 d. 6:1
95. What is the absolute difference between the minimum and maximum ages of the persons termed “Mr. Tight”?
 a. 1 years b. 2 years c. 0 years d. 4 years
96. What is the minimum change in height required by any person who is not termed “fit” to be termed “fit” (weight remaining unchanged)?
 a. 2 inches b. 4 inches c. 6 inches d. 3 inches

Directions for questions 97 to 101: Answer the questions on the basis of the information given below. Four friends A, B, C and D were having a party. They initially had certain quantities of six drinks viz. Royal Stag, 8PM, Bagpiper, Aristocrat, McDowell and Hayward. They were having drinks in rounds. In total, there were 3 rounds. In each round, each of the friends had 2 pegs of drinks. Atleast 1 and atmost 2 pegs of each drink are taken in every round. The quantity of each peg is 25ml. Each friend had two different drinks in any single round.

The following cumulative graph shows the initial quantity of each drink at the start of the party. (where ‘x’ is a real quantity in ml)



Initial quantity of McDowell at the start of the party was 300 ml. The following cumulative graph shows the quantity of each drink left after the end of 3 rounds.



The quantity of Aristocrat left after round 3 is 75 ml.

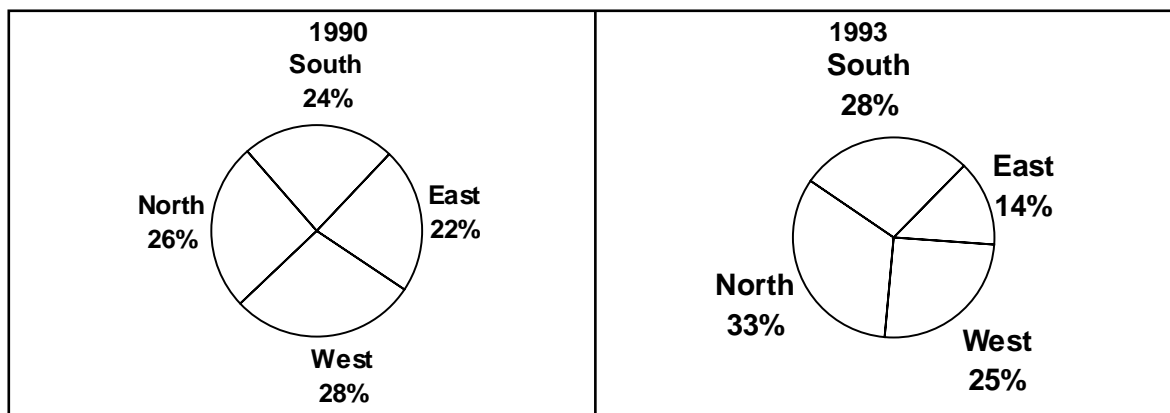
97. If A and D had McDowell in round 2, then what can be the ratio of quantity of McDowell and Royal Stag consumed in round 3?
 - a. 1:1
 - b. 1:2
 - c. 2:1
 - d. Both (a) and (b)
98. What is the minimum possible ratio of quantities of Aristocrat and Royal Stag left at the end of any round?
 - a. 1.66
 - b. 1.5
 - c. 1
 - d. 0.75
99. If after round 2, ratio of remaining quantities of Aristocrat and Hayward is 1:2, then find the total quantity of Aristocrat and Hayward left after round 2.
 - a. 300ml
 - b. 225 ml
 - c. 375 ml
 - d. Cannot be determined
100. Which drink has the second highest percentage consumption in total?
 - a. 8PM
 - b. Bagpiper
 - c. Aristocrat
 - d. McDowell
101. How many of the following statements is / are true?
 1. Remaining quantity of Royal Stag and 8 PM cannot be equal after any round.
 2. At most 3 different persons can have 8 PM.
 3. A person can have 4 pegs of Royal Stag in 3 rounds.
 4. Percentage consumption of McDowell is the least.
 - a. 0
 - b. 1
 - c. 2
 - d. 3

Directions for questions 102 to 106: Answer the questions on the basis of the information given below. The following table illustrates the Gender Gap Rankings of 30 countries. The overall ranking is based upon the five sub-rankings as shown below.

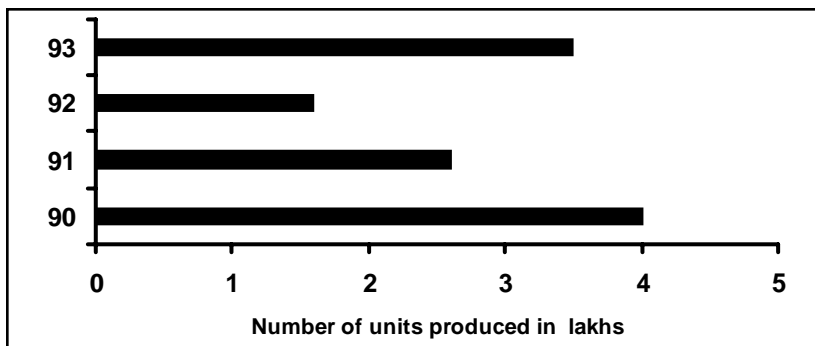
The Gender Gap Rankings						
Country	Overall rank	Sub- Rankings				
		Economic Participation	Economic opportunity	Political empowerment	Educational attainment	Health and well-being
Sweden	1	5	12	8	1	1
Norway	2	13	2	3	6	9
Iceland	3	17	7	2	7	6
Denmark	4	6	1	20	5	2
Finland	5	12	17	4	10	4
New Zealand	6	16	47	1	11	26
Canada	7	7	27	11	12	14
United Kingdom	8	21	41	5	4	28
Germany	9	20	28	6	34	10
Australia	10	15	25	22	17	18
Latvia	11	4	6	10	24	48
Lithuania	12	10	11	13	19	44
France	13	31	9	14	31	17
Netherlands	14	32	16	7	42	8
Estonia	15	8	5	30	18	46
Ireland	16	37	51	12	9	12
United States	17	19	46	19	8	42
Costa Rica	18	49	30	9	14	30
Poland	19	25	19	18	20	38
Belgium	20	35	37	25	15	16
Slovak Republic	21	14	33	29	23	35
Slovenia	22	26	15	39	22	19
Portugal	23	27	18	31	36	20
Hungary	24	30	3	28	39	40
Czech Republic	25	24	4	43	25	23
Luxembourg	26	48	8	33	21	25
Spain	27	45	34	27	35	5
Austria	28	42	22	21	38	13
Bulgaria	29	11	14	23	50	55
Colombia	30	41	38	15	13	52

102. How many countries have Overall as well as Economic opportunity rank less than 20?
a. 14 b. 13 c. 11 d. 10
103. How many countries have Educational attainment rank above 15 and Economic participation rank below 20?
a. 23 b. 5 c. 7 d. 6
104. How many countries have none of the five sub-ranks greater than 35?
a. 12 b. 14 c. 11 d. 10
105. How many countries have the rank difference between Economic participation and Economic opportunity as well as the rank difference between Political empowerment and Educational attainment equal to a multiple of 3?
a. 5 b. 3 c. 2 d. 1
106. How many countries with double-digit Overall rank have atleast two single-digit sub-ranks?
a. 5 b. 4 c. 3 d. 2

Directions for questions 107 to 110: Answer the questions on the basis of the information given below. The pie charts provide information about the number of units produced in four different zones namely North, South, East and West of country X for the years 1990 and 1993 respectively.



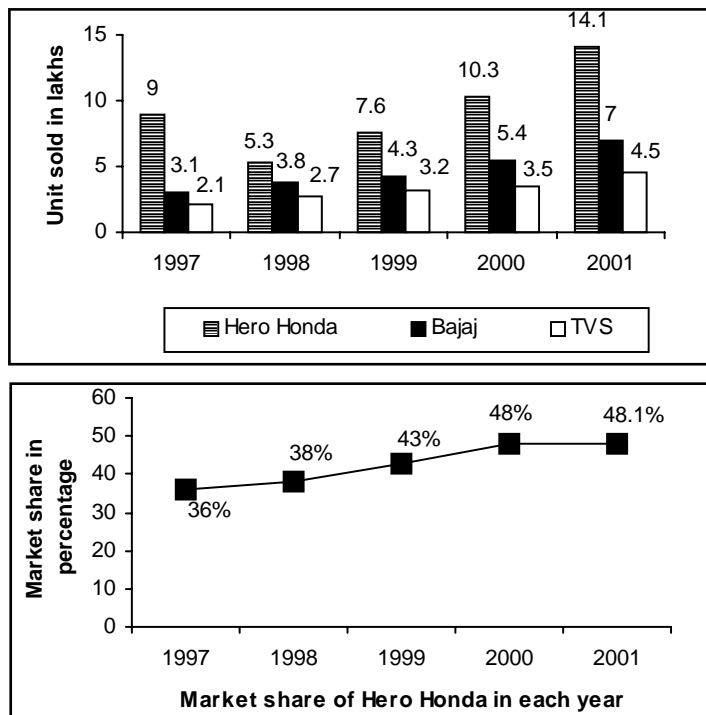
Total number of units produced in country X in all the four zones for the period 1990-93 is given by the following bar chart.



107. How many units were produced in the north zone in 1990?
a. 0.96 lakh b. 1 lakh c. 1.04 lakh d. 1.08 lakh

108. How many units were produced in south zone in 1993?
 a. 6,400 b. 980 c. 64,000 d. 98,000
109. What is the percentage decrease in total number of units produced in 1992 as compared to the total number of units produced in 1991?
 a. 38% b. 50% c. 60% d. 45%
110. Which zone registered the greatest percentage change in the number of units produced in 1993 as compared to 1990?
 a. North b. South c. East d. West

Directions for questions 111 to 114: Answer the questions on the basis of the information given below. The bar graph below shows the number of units sold by the three motorcycle manufacturers, i.e. Bajaj, Hero Honda, and TVS and the line graph shows the marketshare (in units) of Hero Honda in five consecutive years.



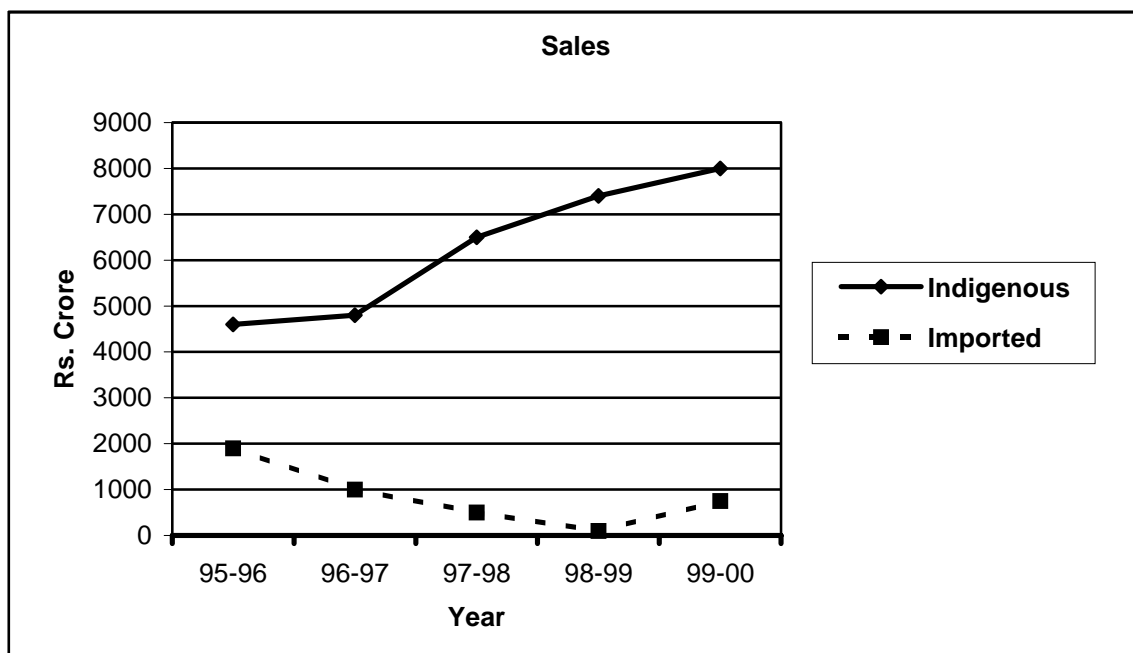
111. If volume of total motorcycle market expected to grow by 6% in 2002 and Hero Honda shares the 49.8% of the total market, then how many extra units does it require to sell (in thousands) in 2002 with respect to 2001?
 a. 128 b. 130 c. 137 d. 150
112. Based on the previous question, what percentage of market was shared by the TVS if it sold only 4.2 lakh unit in 2002?
 a. 13.5% b. 18.0% c. 26% d. 21.5%

113. If the volume of the total market remains the same in 2002 and Bajaj has a market share of 26%, TVS has a market share of 13% and Hero Honda has a market share of 50%, then what will be their combined marketshare?
- a. 73% b. 70% c. 89% d. 95%
114. If manufacturing cost of each motorcycle (unit) is Rs. 22,000, Rs. 25,000, Rs. 27,000 for Hero Honda, Bajaj and TVS respectively, then what will be the average cost of one motorcycle?
- a. Rs. 23,600 b. Rs. 26,500
c. Cannot be determined d. None of these

Directions for questions 115 to 117: Answer the questions on the basis of the information given below. The following table provides information about the production of Nitrogen and Phosphate fertilizers in lakh tons.

Year	Nitrogen	Phosphates
95-96	87.77	25.58
96-97	85.99	25.56
97-98	100.86	29.76
98-99	104.26	29.97

The following line graph shows the sales in Rs crore for the above fertilizers.



115. What is the overall increase in sales of indigenous and imported fertilizers over the period 95-96 to 99-2000?
- a. 34% b. 33% c. 36% d. 32%

116. In which year there was a maximum increase in the sales of indigenous fertilizers?
 a. 95-96 b. 96-97 c. 97-98 d. 99-00
117. What is the total amount collected due to the sale of the Nitrogen fertilizers in 97-98 if the total amount collected by the sale of Nitrogen fertilizers is twice that of the amount collected by the sale of Phosphate fertilizers? [Phosphate fertilizers are sold at Rs. 10250 per ton]
 a. 6100 crore b. 6150 crore c. 5800 crore d. 6225 crore

Directions for questions 118 to 120: Answer the questions on the basis of the information given below. The following table provides information about a new cellular service provider IDEAL, which offers the following 5 post paid schemes namely Plan A, Plan B, Plan C, Plan D and Plan E to the customers.

Fixed Charges	Plan A	Plan B	Plan C	Plan D	Plan E
Monthly Rental	NIL	295	295	295	295
Monthly commitment	550	NIL	700	1100	1900
Air Time Rates					
Incoming calls	Rs. 0.90 per 30 secs	Rs. 1.00 per 30 secs	1st min.free then Rs. 0.75 per 30 secs	NIL	NIL
Outgoing calls	Rs. 1.10 per 30 secs	Rs. 1.00 per 30 secs		Rs. 0.50 per 30 secs	NIL
Discount (on airtime)	50% Discount on Incoming and Outgoing air time from 10 p.m. to 8 p.m.	0-150 min., 0% 151-300 min ,10% 301-600 min ,20% Over 600 min., 30%	NIL	NIL	NIL

- * All customers are required to pay Rs. 1,000 as activation charges for any scheme for the first time.
 * Monthly commitment means the minimum amount customer is committed to pay irrespective of usage.
 * Total bill for a particular month is the sum of the rental amount and the amount due to the call usage.

118. A 'plan A' customer has total incoming calls of duration 12,000 s and outgoing calls of duration 6,000 s for a particular month. What is his bill for that particular month?
 a. Rs. 550 b. Rs. 580 c. Rs. 600 d. Cannot be determined
119. If on an average a person has 450 min of incoming call usage and 1,500 min of outgoing call usage in a month then which plan he should opt for, so that he incurs minimum cost?
 a. Plan B b. Plan C c. Plan D d. Plan E
120. A person takes IDEAL cellular service and opts for plan B. His total call usage in the first month is 36,000 secs distributed equally among incoming and outgoing calls. How much amount he has paid to IDEAL as bill for the first month?
 a. Rs. 1,495 b. Rs. 2,495 c. Rs. 1,140 d. Rs. 2,255