# SYMBIOSIS NATIONAL APTITUDE TEST (SNAP) 2012 (Memory Based)

## Instructions:

| This test is divided into the following sections | | |
|---|---|---|
| **Sections** | **Total Marks** | **No. of Questions** |
| Quantitative Aptitude & Data Interpretation | 40 | 40 |
| General Knowledge | 40 | 40 |
| General English | 40 | 40 |
| Analytical & Logical Reasoning | 60 | 30 |
| **Total** | **180** | **150** |

**\*For every wrong answer, you will score 25% negative marks. You will be given 120 minutes to complete the test.**

# SECTION I    QUANTITATIVE APTITUDE & DATA INTERPRETATION

**1.** If $11^{10 - 2x} = 1$, find the value of x.

    (a)     10         (b)     5

    (c)     2         (d)     None of these

**2.** Two trains moving in opposite directions cross aman standing at a platform in 25 sec and 15 sec respectively and they cross each other in 21 sec. Find the ratio of speeds of the trains.

    (a)     21 : 10         (b)     1 : 2

    (c)     3 : 2         (d)     5 : 3

**3.** A girl sells two bags at `600 each. If she makes a profit of 20% on one of the bags and incurs a loss of 25% on the other, find the resultant gain or loss in the transaction.

    (a)     `100 loss         (b)     `200 loss

    (c)     `130 gain         (d)     `240 gain

**4.** If $-1 \le x \le 2$ and $1 \le y \le 3$, find the least possible value of $2y - 3x$.

    (a)     −1         (b)     − 3

    (c)     0         (d)     − 4

**5.** A person incurs a loss of 40% when he sells 32 oranges at 1,000. In order to make a profit of 20%, how many oranges should he sell at 1000?

    (a)     12         (b)     14

    (c)     16         (d)     18

**6.** If the mean of five numbers 25, 30, 35, 40 and 45 is 35, find the variance.

    (a)     200         (b)     250

    (c)     100         (d)     150

**7.** If $2x^2 - 7x + 6 = 0$, what is the largest value of x which satisfies the equation?

    (a)     2         (b)     $\dfrac{3}{2}$

    (c)     3         (d)     None of these

**8.** A person reaches his office just in time when he travels at a speed of 48 kmph. When he moves at a speed of 36 kmph, he gets late by 15 min. Find the distance of the journey.

(a)    48 km                          (b)    36 km

(c)    30 km                          (d)    44 km

**9.** A fraction becomes $\frac{1}{2}$ when 1 is added to its numerator and denominator and becomes $\frac{1}{4}$ when 1 is subtracted from its numerator and denominator. Find the fraction.

(a)    $\frac{4}{9}$                          (b)    $\frac{3}{5}$

(c)    $\frac{4}{13}$                          (d)    $\frac{2}{5}$

**10.** When Sonu's age 3 years ago is doubled and subtracted from twice his age 2 years hence, the resultant is exactly half of his present age. Find his present age (in years).

(a)    15                          (b)    20

(c)    24                          (d)    None of these

**11.** Sum of the present ages of a father and his son is 48 years. If the product of their ages 5 years back is 165, what is the present age of the father?

(a)    38 years                          (b)    36 years

(c)    31 years                          (d)    28 years

**12.** If $\frac{P}{Q}$ = 8, then find the value of $\frac{P^2 + Q^2}{P^2 - Q^2}$.

(a)    $\frac{22}{21}$                          (b)    $\frac{9}{7}$

(c)    $\frac{65}{63}$                          (d)    $\frac{50}{47}$

**13.** If $\frac{a}{b} = \frac{4}{3}$ = then find the value of $\frac{9a + 4b}{9a - 4b}$.

(a)    2                                    (b)    $\dfrac{8}{5}$

(c)    $\dfrac{16}{9}$                      (d)    3

14.  If 40% of $\dfrac{2}{5}$th of a number is 24, find the value of the number.

(a)    200                                  (b)    100

(c)    250                                  (d)    150

15.  A bag contains 6 white and 4 black balls. If 2 balls are drawn from the bag, what is the probability that both are white?

(a)    0.25                                 (b)    0.33

(c)    0.4                                  (d)    None of these

16.  If a card is drawn from a pack of cards, what is the probability that it is either a club or a jack?

(a)    $\dfrac{17}{52}$                     (b)    $\dfrac{1}{52}$

(c)    $\dfrac{7}{13}$                      (d)    $\dfrac{4}{13}$

17.  Find the area of an equilateral triangle whose height is 12 cm.

(a)    $24\sqrt{3}$ cm²                     (b)    48 cm²

(c)    $48\sqrt{3}$ cm²                     (d)    $36\sqrt{3}$ cm²

18.  10 women can complete a piece of work in 8 days and 10 children can do the work in 16 days. In how many days can 5 women and 10 children complete the work?

(a)    8 days                               (b)    12 days

(c)    12.5 days                            (d)    16 days

19.  Find the value of $\dfrac{(0.6)^4 - (0.5)^4}{(0.6)^2 + (0.5)^2}$.

(a)    0.0121                               (b)    0.011

(c)    0.11                                 (d)    1.1

20. The mean of n terms of an arithmetic progression is $\bar{x}$. If the sum of (n – 1) terms is k, find the nth term.

(a) $n\bar{x} + k$

(b) $\bar{x} - nk$

(c) $k\bar{x} + n$

(d) $n\bar{x} - k$

21. When a number is divided by 4, then the remainder is 2. When the quotient is divided by 2, then the remainder is 1. What will be the remainder when the number is divided by 8?

(a) 4

(b) 5

(c) 6

(d) 7

22. If $\log x^2y^4 = a$ and $\log \dfrac{x}{y} = b$, find the value of $\dfrac{\log x}{\log y}$.

(a) $\dfrac{a + 4b}{a - 2b}$

(b) $\dfrac{a - 4b}{a + 2b}$

(c) $\dfrac{a + 4b}{a + 2b}$

(d) $\dfrac{a - 4b}{a - 2b}$

23. The distance between A and B is 180 km. A starts towards B at a speed of 30 kmph at 9:00 a.m. and after 1 hour, B starts towards A at a speed of 20 kmph. At what time will they meet for the first time?

(a) 12:00 p.m.

(b) 1:00 p.m.

(c) 1:30 p.m.

(d) 2:00 p.m.

24. A, B, C start a business in which A's investment is `20,000. If at the end of year, in total profit of `2,000 A's share is `1000 an that of B is `600, find the investment of C.

(a) `6,000

(b) `8,000

(c) `12,000

(d) `15,000

25. In a class, 52% students failed in English, 40% failed in Mathematics and 20% failed in both the subjects. What percent of students passed in both the subjects?

(a) 18%

(b) 28%

(c) 36%

(d) None of these

**26.** Rohan travels 30 meters in 4 seconds whereas Mohan travels 40 meters in 5 seconds. If both start from same point, what distance would be travelled by Mohan by the time he is 20 meters ahead of Rohan?

(a)    320 m
(b)    300 m
(c)    280 m
(d)    250 m

**27.** The value of ratio of two numbers is $\dfrac{1}{2}$. If the ratio becomes $\dfrac{5}{8}$ when 4 is added from both the numbers, find the bigger number.

(a)    6
(b)    10
(c)    12
(d)    24

**28.** In the figure given below, AT is a tangent on the circle drawn from T and ACB is the diameter. If $\angle BCT = 130°$, find $\angle ATC$.
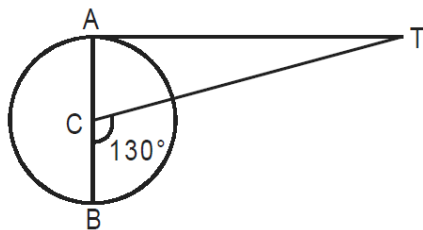


(a)    50°
(b)    60°
(c)    30°
(d)    40°

**29.** If $4x + 2y = 14$ and $\dfrac{5x}{2y} = \dfrac{5}{3}$, find the value of $y - x$.

(a)    3
(b)    −5
(c)    1
(d)    5

**30.** The cost of 6 hard-discs is equals to 9 printers, the cost of 27 printers is equal to 30 scanners and the cost of 300 scanners is equal to 9 computers. If the cost of 3 computers is `72,000, then find the cost of a hard-disc.

(a)    `1800
(b)    `800
(c)    `1500
(d)    `1200

**31.** There are 2 baskets – A and B – containing mangoes. If 10 mangoes are transferred from A to B, then the numbers of mangoes in both the baskets become equal. If 20 mangoes had been transferred from B to A, the number

of mangoes in basket A would have become twice that of in B. Find the original number of mangoes in basket A.

(a)    100                          (b)    80

(c)    70                           (d)    60

32.    In a triangle ABC, AB = 6 cm, BC = 8 cm and AC = 10 cm. A perpendicular BD to D on AC is drawn. Taking B as centre and BD as radius a circle is drawn that cuts AB and BC at points E and F respectively. Find the ratio of the length of AE to that of CF.

(a)    3 : 5                         (b)    3 : 8

(c)    4 : 7                         (d)    3 : 7

33.    The cost of an I-pad increases by 10% and that of mobile increases by 18%. The cost of an I-pad is thrice of a mobile. Find the increase in the cost of 10 I-pads and 5 mobiles.

(a)    10%                          (b)    11.14%

(c)    14.63%                       (d)    18%

34.    A person incurs a loss of 10% when he sells an item `1,800. At what price the item should be sold to get a profit of 10%?

(a)    `2200                        (b)    `2100

(c)    `2000                        (d)    `1800

**Directions for questions 35 to 40:**

**Income of a family:**

Basic salary - 5,000

Petrol allowance - 20%

PF deduction - 10%

**Expenditure:**

Food - 28%

House rent - 22%

Entertainment - 12%

Children's Education - 25%

Other expenses - 13%

35.    What is the house rent?

(a)    `1188            (b)    `1210

(c)    `1320            (d)    `1420

**36.** What is the expenditure on food and entertainment?

(a)    `2000            (b)    `2500

(c)    `2160            (d)    `2200

**37.** If the family has no children, how much maximum can they save including PF?

(a)    `2125            (b)    `1950

(c)    `1875            (d)    `1750

**38.** After PF deduction and house rent, what is left for expenditure?

(a)    `4290            (b)    `4212

(c)    `4080            (d)    `3900

**39.** How much is PF deduction?

(a)    `500            (b)    `600

(c)    `1000            (d)    `1200

**40.** If family gets 15% inflation allowance on the basic salary, then what is the gross income of the family?

(a)    `6150            (b)    `6250

(c)    `6750            (d)    `7000

## SECTION II    GENERAL KNOWLEDGE

**41.** Who among the following is the winner of men's single Lawn Tennis tournament in Olympic 2012?

(a)    Roger Federer        (b)    Rafael Nadal

(c)    Andy Murray        (d)    None of the above

**42.** Fibre optic cable transmits large data using......

(a)    light            (b)    water

(c)    sound            (d)    None of the above

**43.** 6 sigma based Quality improvement concepts are not applicable to....

(a)    Banking            (b)    Manufacturing

(c)　Health | (d)　Infrastructure

**44.** Which among the following are not constitutional bodies?

1.　EC | 2.　CVC

3.　NHRC | 4.　UPSC

Correct code:

(a)　1 only | (b)　2 and 3 only

(c)　3 and 4 only | (d)　All of the above

**45.** First country to draw fund from IMF......

(a)　France | (b)　Kenya

(c)　Brazil | (d)　None of the above

**46.** Octopus has......

(a)　hearts | (b)　eyes

(c)　arms | (d)　all of the above

**47.** Maxis communication holds majority stakes in......

(a)　Aircel | (b)　Airtel

(c)　Vodafone | (d)　Idea

**48.** What is the term for Computer virus which has delayed payload?

(a)　Bomb | (b)　Infection

(c)　Trojan horses | (d)　Worm

**49.** Suez canal connects....

(a)　English channel with North Sea

(b)　Mediterranean with Red Sea

(c)　Pacific Ocean with Caribbean Sea

(d)　Gulf of Mexico and Pacific Ocean

**50.** Lok Sabha passed two bills to change name of state and name of language of......

(a)　Assam | (b)　Orissa

(c)　West Bengal | (d)　Madhya Pradesh

**51.** Which among the following is not a Public Sector Bank of India?

(a)　South Indian Bank | (b)　Bank of India

(c)      Bank of Baroda         (d)      Punjab National Bank

**52.** First foreign Minister of India......

(a)      Gulzarli Lal Nanda         (b)      Lal Bahadur Shastri

(c)      Sardar Swaran Singh         (d)      Jawahar Lal Nehru

**53.** Study of Fossil......

(a)      Araneology         (b)      Paleontology

(c)      Cardiology         (d)      Anthology

**54.** Which among the following is not a direct tax?

(a)      Income Tax         (b)      Corporation Tax

(c)      Sales Tax         (d)      Gift Tax

**55.** King, Queen, workers and soldiers can be found in......

(a)      Ant Hills         (b)      Termite colonies

(c)      Bee Hives         (d)      All of the above

**56.** Which among the following is not a deptt under Ministry of Finance?

(a)      Department of Expenditure

(b)      Department of Financial Services

(c)      Department of Detection of Financial Frauds

(d)      Department of Disinvestment

**57.** Prior to amendment in 2000, which tax were levied and collected by Union but distributed between Union and States in India?

(a)      Central Sales Tax         (b)      Consignment Taxes

(c)      Income Tax         (d)      None of the above

**58.** In 2007, New York Stock Exchange was merged with ......... to form first global equities.

(a)      Chi–X         (b)      Xetra

(c)      Eurex         (d)      Euronext

**59.** Exemption limit for general category individual tax payers in union budget 2012-13 is ........

(a)      150,000 per annum         (b)      180,000 per annum

(c)      250,000 per annum         (d)      2,00,000 per annum

60. What is validity period for cheques and bank drafts now?

(a) 6 months (b) 5 months

(c) 3 months (d) 2 months

61. What is the name of Turkish currency?

(a) Turkish Lira (b) Turkish Dinar

(c) Rubal (d) Turkish Krone

62. Yoga in Sanskrit means……

(a) Union (b) Separation

(c) Exercise (d) None of the above

63. Statutory auditor of a company is appointed by……

(a) the Managing Director of company

(b) the Board of Director of the company

(c) the Shareholders in the annual general meeting

(d) the company Law Board

64. Chairperson of Lakme who was once called Cosmetic Czarina of India…..

(a) Simone Tata (b) Priyadarshini Rao

(c) Pratiksha Chaudhary (d) None of the above

65. Which is odd one out?

(a) RBI (b) SEBI

(c) LIC (d) IRDA

66. Who is author of 'Hunger and Entitlements' is……

(a) Khushwant Singh (b) Amartya Sen

(c) Kiran Desai (d) Arundhati Roy

67. Mascot of 2011 India Census is…….

(a) A woman Enumerator (b) Our Census, Our Future

(c) A tiger (d) An old man with stick

68. Hippophobia is fear of……

(a) dogs (b) horses

(c) oxes (d) snakes

69. Most common symbol on national flags of countries in the world is……

(a)     Star                  (b)     Crescent

(c)     Animal             (d)     Tripes

**70.** Limit of measurement of speed and movement direction of a computer mouse is measured by......

(a)     Mashboard        (b)     RSTP

(c)     Mickey             (d)     SDP

**71.** Which of the following causes Tetanus......

(a)     Bactria            (b)     Virus

(c)     Fungi              (d)     None of the above

**72.** Question hour in Parliament refers to......

(a)     First hour of the sitting     (b)     Period between 5 PM to 6 PM

(c)     Hour after launch break     (d)     None of the above

**73.** Which of the following date is celebrated as Victory day by Bangladesh and Vijay Diwas by India?

(a)     15 December       (b)     16 December

(c)     21 December       (d)     28 November

**74.** Which of the following term is used for regulator prescribed price limit on stock indices in stock markets?

(a)     Circuit Filter       (b)     Bounds

(c)     Limit Orders       (d)     Current Breakers

**75.** Name the company which has appointed Sushil Kumar as its Ambassador?

(a)     MRF Tyres        (b)     Ralson Tyres

(c)     Goodyear         (d)     Lego Group

**76.** Name the first European country to come to India and last to leave......

(a)     France             (b)     Denmark

(c)     Portugal         (d)     England

**77.** Name the maker of Royal Enfield – Bullet?

(a)     TVS motors       (b)     Hero Motocorp

(c)     Eicher motors     (d)     None of these

**78.** Which company operates both Delhi and Hyderabad Airports?

(a)     GMR Group       (b)     BIAL

(c)     CIAL              (d)     MIAL

**79.** Who is winner of Nobel Prize in Literature for year 2011?

(a) MO Yan      (b) David J. Wineland

(c) Tomas Transtromer      (d) Shinya Yamanka

**80.** Birth rate measures number of births during a year per ............. Population?

(a) 100      (b) 1000

(c) 10000      (d) 100000

# SECTION III   GENERAL ENGLISH

**Directions for questions 81 to 85: Find out the synonyms of the given words.**

**81.** Minion

(a) host      (b) inferior

(c) follower      (d) master

**82.** Platitude

(a) condolence      (b) a trite phrase

(c) empty promise      (d) an obligation

**83.** Polemic

(a) an indication      (b) a misunderstanding

(c) a contentious argument      (d) a complaint

**84.** Leitmotif

(a) recurring theme      (b) spirit of the age

(c) main design      (d) chief objective

**85.** Iridescent

(a) blaze      (b) luster

(c) murkiness      (d) illustration

**86.** **Select the phrase that is incorrect.**

(a) highly educated      (b) highly profitable

(c) highly unusual      (d) highly exhausted

**Directions for questions 87 to 89: Fill in the given blanks with the correct words or phrases.**

87. Today's Headline: The Indian team _____ another Olympic gold medal.

    (a)    had won                (b)    have won

    (c)    won                   (d)    wins

88. Try as I _____, I couldn't open the door.

    (a)    could                 (b)    should

    (c)    might                 (d)    would

89. I think it would be nice to buy him _____ MP3 player as _____ New year's gift.

    (a)    an/the               (b)    the/a

    (c)    a/a                   (d)    an/a

90. **Fill in the blanks with the correct pronoun.**

_____ shall I say is calling?

_____ do you advice the most?

    (a)    whom/whom          (b)    whom/who

    (c)    who/who              (d)    who/whom

**Directions for questions 91 and 92: Fill in the blanks with the correct words or phrases.**

91. The government's attempt to _____ petrol prices have failed.

    (a)    wipe off             (b)    cap off

    (c)    sweep aside         (d)    force down

92. It is important that the TOEFL office _____ every applicant's registration.

    (a)    will confirm         (b)    confirms

    (c)    confirm            (d)    confirming

93. **Identify the correct sentence structure.**

My family watches cricket matches on television but never goes to the stadium.

    (a)    Simple Sentence      (b)    Complex Sentence

    (c)    Compound Sentence    (d)    No Category

94. **Spot the error in the following sentence.**

He said, "What a wonderful surprise"!

(a)     no comma

(b)     quotation marks instead of exclamation

(c)     exclamation inside quotes

(d)     no change

**Directions for questions 95 to 97: From the given options, choose the word that is most nearly same in meaning to the underlined word.**

95.     He asked his friend why he has so <u>tetchy</u> with his wife.

(a)     jealous                          (b)     unfriendly

(c)     irritable                         (d)     conceited

96.     They launched a <u>scurrilous</u> attack.

(a)     serious                          (b)     insulting

(c)     unjustified                      (d)     unsuccessful

97.     He <u>castigated</u> her for her insensitive remarks

(a)     praised                          (b)     defended

(c)     criticized                       (d)     ignored

98.     **From the given options, choose two word, which when filled in the blank would not alter the meaning of the sentence.**

Although it does contain some path breaking ideas, one would hardly characterize the work as_____.

I.      revolutionary                   II.     original

III.    conventional                    IV.     interesting

V.      innovative

(a)     I, II                            (b)     II, IV

(c)     II, V                            (d)     III, IV

99.     **Choose the correct spelling**

The word '<u>Pyrohic</u>' means 'victory that comes at a high cost'. The correct spelling of the underlined word.

(a)     Pyroic                           (b)     Pyorhic

(c)     Pyrrhic                          (d)     Pyrrohic

**100.** **Change the given sentence into its passive voice.**

It had had it.

(a)    It had had by it.                      (b)    It had been had by it.

(c)    It had had been by it.                 (d)    It had it by it.

**101.** **Identify the pronoun.**

It is Atul who gave me the pen. Identity 'who' in thegiven sentence.

(a)    object pronoun                         (b)    relative pronoun

(c)    preposition                            (d)    conjunction

**Directions for questions 102 and 103: Out of the four given words, two of them are either synonyms or antonyms of each other. Identify the correct pair.**

**102.**    I.      Limpid                     II.    Luscious

III.    Acrid                      IV.    Benign

(a)    I, II                              (b)    I, III

(c)    II, III                            (d)    III, IV

**103.**    I.      Prolixity                  II.    Brevity

III.    Agreement                  IV.    Proposition

(a)    I, II                              (b)    I, III

(c)    II, IV                             (d)    I, IV

**104.** **Arrange the sentences 1, 2, 3, 4 and 5 to form a logical sequence. Choose the most logical order of sentences from the four given choices.**

1.    Seen through Bond's eyes, the morning sun comes "shouting over the rooftops", while the whistling-thrush is "Fred Astaire dancing in top hat and tails".

2.    But they don't matter.

3.    You can feel how precious this world – with its mountains and valleys, rivers and cascades, animals, birds, insects and plants — is to the author.

4.    When Bond describes a destination it ceases to be a place on the map and becomes a beautiful portrait of life itself.

5.    As is inevitable with an anthology containing such a vast body of work, there is some overlapping of material and several typos.

| (a) | 45231 | (b) | 52314 |
|-----|-------|-----|-------|
| (c) | 41235 | (d) | 54231 |

**105.** **Arrange the sentences 1, 2, 3, 4, 5 and 6 to form a logical sequence. Choose the most logical order of sentences from the four given choices.**

1. The Croatian mercenaries in the French Service wearing their traditional small, knotted neckerchiefs aroused the interest of Parisians.

2. Men looked smarter in the age of the tie.

3. Its appeal to the masses started only during the industrial revolution when masses of people shifted to cities.

4. Croat soon became Cravats and a fashion craze started among men and women.

5. The modern history of this accessory is generally traced back to the Thirty Years' War (1618-1648).

6. But it was still a part of the elite style.

| (a) | 512643 | (b) | 425136 |
|-----|--------|-----|--------|
| (c) | 251463 | (d) | 321465 |

**106.** **Given below are fragments of a sentence numbered 1 to 8. Arrange these fragments in a logical order so that together they make a meaningful sentence. From the given options, choose the one with the most appropriate sequence.**

| 1. | not only | 2. | I still think |
|----|----------|----|---------------|
| 3. | because it is cheap | 4. | because it is large |
| 5. | that we should | 6. | but also |
| 7. | buy this plot | 8. | although you may not like it |

| (a) | 1, 4, 6, 3, 2, 8, 5, 7 | (b) | 4, 2, 8, 6, 7, 1, 5, 3 |
|-----|------------------------|-----|------------------------|
| (c) | 2, 5, 7, 8, 6, 4, 1, 3 | (d) | 8, 2, 5, 7, 1, 4, 6, 3 |

**Directions for questions 107 to 111: Read the following passage and answer the questions that follow.**

The Celts may be taken as a starting point for a study of the long series of people whose arrival and settlement in Britain have contributed to its history. They provide a link between the prehistoric period – at the end of which they had emerged …

The passage (of 230 words) was taken from 'The Celts' by Nora Chadwick, Penguin edition

107. A line was taken and the pronoun 'our' was underlined. Whom did the pronoun refer to?

    (a)    Europeans            (b)    British

    (c)    Celts                (d)    Romans

108. According to the passage, who were the enemies of the Celtic people?

    (a)    The people of Britain      (b)    Romans

    (c)    The ancient classical writers    (d)    The Vikings

109. What does the word 'relegate' mean?

    (a)    To make importance      (b)    To make less important

    (c)    Delegate           (d)    Give poor treatment

110. Which of the following can be inferred as the reason why the Celtic people were not given due importance in the history of Britain.

    (a)    Because they were considered outsiders.

    (b)    Because they soon returned to their homeland.

    (c)    Because they did not leave much records for the archaeologists.

    (d)    None of the above

111. What did the findings of the archaeologists reveal?

    (a)    Writing came later on.

    (b)    The Celts were an illiterate race.

    (c)    The writings of the Celts were destroyed by those who came after them.

    (d)    The Celts did not believe in keeping records of their exploits.

112. **Identify if the sentence has an error in it.**

The CEO, together with his managers, have decided to organize a meeting.

    (a)    together with        (b)    organize

    (c)    have               (d)    no error

113. **Read the arguments given below and answer the question that follows.**

A number of independent studies have confirmed that XYZ minivans on an average have a better system of brakes as compared to any other minivans. Therefore, anyone wanting to buy a minivan solely on the basis of safety should buy XYZ minivans.

Which of the following most weakens the above conclusion?

(a) Independent studies have strong research methods which project reliable findings.

(b) EFG minivans have also fared better than ABC minivans on safety tests.

(c) In some studies ABC minivans gave better results in the brake tests.

(d) ABC minivans performed better than XYZ minivans in the frontal crash tests.

**114.** **Select the word / words that have to be removed / replaced in order to make the sentence grammatically correct.**

The tiles were secure fastened and so very few of them were dislodged when the shuttle re-entered the earth's atmosphere.

(a) tiles

(b) secure fastened

(c) shuttle re-entered

(d) atmosphere

**Directions for questions 115 and 116: Spot the error in the following sentence.**

**115.** The Pickerel frog should be avoided as the secretions from their skin are lethal to animals and irritating to humans.

(a) avoided

(b) their

(c) lethal to animals

(d) irritating

**116.** Neither the mathematics department nor the economics department at the State University require that the students must write a thesis to be awarded a Master's Degree.

(a) Neither...nor

(b) require

(c) must

(d) a Master's Degree

**117.** **Fill in the Blank**

For safety concerns, the nuclear detonator has been designed to have _____ so that two individuals can separately handle them.

(a) two equipments pieces

(b) two pieces of equipment

(c) two pieces of equipments

(d) two equipments

**118.** He gave me a drink from his water-gourd. **Identify drink in the given sentence**.

(a) noun

(b) verb

(c) adjective

(d) adverb

**119.** Bollywood and reality television shows have made dance glamorous. **Identify glamorous in the given sentence**.

(a)  noun                    (b)  verb

(c)  adverb                  (d)  adjective

**120.** **Fill in the blank**
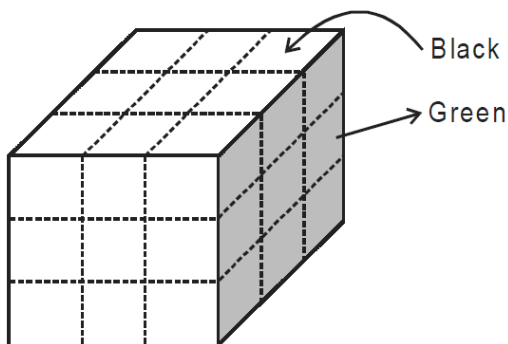
It was a fine June day, brilliant _____ sunlight.

(a)  through                 (b)  by

(c)  with                    (d)  in

# SECTION IV    ANALYTICAL & LOGICAL REASONING

**Directions for questions 121 to 124: Answer the questions on the basis of the information given below.**

A cube is painted Green on four adjoining faces and Black on the other two faces (top and bottom faces). It is then cut in the following manner.



**121.** How many cubes are thus formed?

(a)  27                      (b)  25

(c)  18                      (d)  None of these

**122.** How many cubes have only one face painted and that is Black colored?

(a)  1                       (b)  2

(c)  4                       (d)  6

**123.** How many cubes have no faces painted?

(a)  1                       (b)  2

(c)  3                       (d)  4

**124.** How many cubes have at least three faces painted?

(a)   4

(b)   6

(c)   8

(d)   10

**125.** If 'AIR' is coded as 'DLU', what is the code for 'PLANE'?

(a)   SOEPH

(b)   SPDQH

(c)   SPDPG

(d)   SODQH

**Directions for questions 126 to 129: Answer the questions on the basis of the information given below.**

A family consists of seven people – A, B, C, D, E, F and G. Out of them, there are three married couples. B, the engineer is the father of E, who is the student. F, who is a contractor is the grandfather of E. C is the daughter-in-law of D, who is a professor. G, the doctor is the uncle of the student. There is one journalist, one housewife and one student. C is the sister-in-law of B. The student is single.

**126.** Who is C's husband?

(a)   B

(b)   G

(c)   F

(d)   Cannot be determined

**127.** Who is E's aunt?

(a)   D

(b)   A

(c)   G

(d)   C

**128.** Which are the three married couples?

(a)   (A, B), (C, G), (D, F)

(b)   (A, F), (B, C), (D, G)

(c)   (A, G), (B, C), (D, F)

(d)   (A, B), (C, F), (D, G)

**129.** Which of the following groups definitely represents the females?

(a)   C, D

(b)   A, C

(c)   A, D, C

(d)   A, D, C, E

**130.** Find the missing number '?'

| C | G | K |
|---|---|---|
| G | L | Q |
| L | R | ? |

(a)   Y

(b)   X

(c)    S                                    (d)    P

**Directions for questions 131 to 134: Answer the questions on the basis of the information given below.**
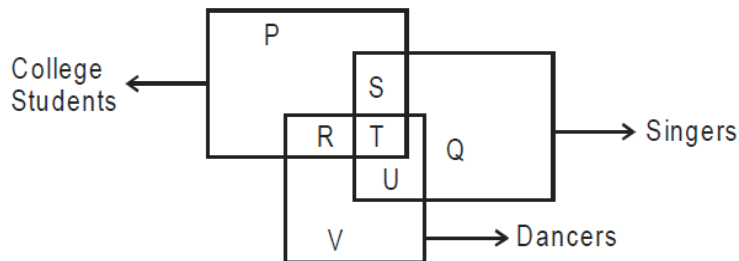


**131.** College students who are dancers but not singers are represented by?

(a)    S                                    (b)    R

(c)    T                                    (d)    P

**132.** College students who are singers but not dancers are represented by?

(a)    R                                    (b)    P

(c)    S                                    (d)    T

**133.** College students who are dancers as well as singers are represented by?

(a)    T                                    (b)    V

(c)    R                                    (d)    S

**134.** College students who are neither dancers nor singers are represented by?

(a)    P                                    (b)    S

(c)    V                                    (d)    Q

**Directions for questions 135 and 136: Answer the questions on the basis of the information given below.**

$$P \neq Q = \frac{P + PQ}{Q}$$

$$P \$ Q = \frac{P - PQ}{Q}$$

$$P ? Q = \frac{Q + PQ}{P}$$

$$P @ Q = \frac{Q - PQ}{P}$$

**135.** Find a # b, if a = (P # Q + P ? Q), b = (P \$ Q + P @ Q) and P = 1 and Q = 3.

(a) $\dfrac{5}{3}$

(b) $\dfrac{1}{11}$

(c) $-\dfrac{22}{3}$

(d) $-\dfrac{11}{3}$

**136.** The value of $\dfrac{P \# Q}{P \$ Q} \div \dfrac{P ? Q}{P @ Q}$, where P = 1 and Q = 2 is

(a) 0

(b) –2

(c) $\dfrac{4}{3}$

(d) Infinity

**Directions for questions 137 to 140: Answer the questions on the basis of the information given below.**

Six persons – A, B, C, D, E and F live in six bungalows, 3 facing North and three facing South. The bungalows are named after six different flowers – Yarrow, Periwinkle, Rose, Orchid, Blue Star and White Primrose (not necessary in that order). It is known that:

● C lives in the Yarrow bungalow and is facing South

● There is no bungalow to the left of White primrose

● The bungalow of D is to the right of the bungalow opposite to that of B

● The bungalow opposite to C is Periwinkle

● The bungalow opposite to B is facing North and it is not Rose

● The bungalow Blue Star is to the immediate left of Rose and it is facing North

● E lives in a bungalow which is to the right of F

**137.** Who lives in the bungalow Orchid?

(a) A

(b) B

(c) E

(d) D

**138.** What is the name of E's bungalow?

(a) White primrose

(b) Rose

(c)    Blue Star                   (d)    Periwinkle

**139.** Who lives to the immediate left of B?

(a)    A                       (b)    C

(c)    F                       (d)    D

**140.** Which bungalow is the leftmost and faces North?

(a)    Blue Star                 (b)    White primrose

(c)    Rose                   (d)    Periwinkle

**141.** Find the odd one out.

| (1) | | | | (2) | | | | (3) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 8 | 3 | | 6 | 5 | 8 | | 4 | 8 | 2 |
| 1 | 4 | 6 | | 3 | 1 | 4 | | 1 | 5 | 7 |
| 7 | 2 | 9 | | 9 | 6 | 2 | | 6 | 3 | 9 |

(a)    Only (1)                 (b)    Only (2)

(c)    Only (3)                 (d)    None of these

**Directions for questions 142 to 144: Answer the questions on the basis of the information given below.**

From one sequence of digits another sequence of digits has to be formed as per the following rules:

Single switch: Interchange of any two adjacent digits.

Double switch: Interchange of any two digits with maximally one digit in between.

Random switch: Interchange of any two digits.

**142.** Using only single switching, what is the minimum number of steps required to change 51432 to 12345?

(a)    6                       (b)    7

(c)    8                       (d)    9

**143.** Using only double switching, what is the minimum number of steps required to change 165324 to 12345?

(a)    5                       (b)    6

(c)    7                       (d)    None of these

**144.** Using only random switching, what is the minimum number of steps required to change 653124 to 123456?

(a) 3           (b) 4

(c) 5           (d) None of these

**145.** If COMPATIBLE is to CURIE, then AUDIENCE is to

(a) FREQUENT           (b) OCEANIC

(c) UNDERGONE           (d) UNSEEN

**Directions for questions 146 to 148: Answer the questions on the basis of the information given below.**

Ten sports persons A, B, C, D, E, F, G, H, I and J are sitting around a circular table. Each two are Cricketers, Swimmers, Athletes, Footballer, Tennis players not necessarily in that order. It is also known that -

(i) Cricketers are sitting to the immediate right of Athletes and to the immediate left of Swimmers.

(ii) Players who play the same sport sit opposite to each other.

(iii) Tennis player does not sit next to Swimmers.

(iv) G is sitting equidistant from I and D.

(v) B and F are Athletes.

(vi) C and D are Cricketers.

(vii) G is sitting three places to the right of D and two places to the left of C.

(viii) J and I are Swimmers.

(ix) H is sitting two places to the right of I.

**146.** Which sport does G play?

(a) Tennis           (b) Swimming

(c) Football           (d) Cannot be determined

**147.** If F, D and J sit together, who are the neighbors of H?

(a) F and A           (b) F and E

(c) A and E           (d) Cannot be determined

**148.** If F, D and J sit together, then who sits to the immediate left of C?

(a) G           (b) B

(c) F           (d) Cannot be determined

**Directions for questions 149 and 150: Each question has a set of four sequentially ordered statements. Each statement can be classified as one of the following:**

– Facts, which deal with pieces of information that one has heard, seen or read, and which are open to discovery or verification (the answer option indicates such a statement with an 'F').

– Inferences, which are conclusions drawn about the unknown, on the basis of the known (the answer option indicates such a statement with an 'I').

– Judgments, which are opinions that imply approval or disapproval of persons, objects, situations and occurrences in the past, the present or the future (the answer option indicates such a statement with a 'J').

Select the answer option that best describes the set of four statements.

**149.** 1. Yuvraj Singh's 6 sixes in an over in the match against England in the twenty 20 world cup helped him score the fastest 50 in any form of cricket.

2. India would have lost the game against England if Yuvraj had not played.

3. Yuvraj's innings propelled India to a score which would have otherwise been difficult to reach.

4. Yuvraj Singh won the man of the match award for his outstanding performance in India's match against England.

(a) FIIF  (b) IJIF

(c) FJJF  (d) FIJF

**150.** 1. Sebi has given an 'informal guidance' to Insilco on the buy back of Non Convertible Debentures.

2. This move could serve as a useful guide for other companies who may have similar plans.

3. The debentures are due for redemption in three annual installments.

4. Insilco may go ahead with early redemption since Sebi has clarified the process.

(a) FIII  (b) FJJI

(c) FJFI  (d) JJJI

# ANSWER KEY – SNAP 2012
# (Memory Based)

| 1 | b | 2 | c | 3 | a | 4 | d | 5 | c | 6 | * | 7 | a | 8 | b | 9 | d | 10 | b |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | a | 12 | c | 13 | a | 14 | d | 15 | b | 16 | d | 17 | c | 18 | a | 19 | c | 20 | d |
| 21 | c | 22 | a | 23 | b | 24 | b | 25 | b | 26 | a | 27 | c | 28 | d | 29 | c | 30 | d |
| 31 | a | 32 | b | 33 | b | 34 | a | 35 | b | 36 | d | 37 | c | 38 | a | 39 | a | 40 | c |
| 41 | c | 42 | a | 43 | d | 44 | b | 45 | a | 46 | d | 47 | a | 48 | a | 49 | b | 50 | b |
| 51 | a | 52 | d | 53 | b | 54 | c | 55 | d | 56 | c | 57 | c | 58 | d | 59 | d | 60 | c |
| 61 | a | 62 | a | 63 | c | 64 | a | 65 | c | 66 | b | 67 | a | 68 | b | 69 | a | 70 | c |
| 71 | a | 72 | a | 73 | b | 74 | a | 75 | b | 76 | c | 77 | d | 78 | a | 79 | c | 80 | b |
| 81 | c | 82 | b | 83 | c | 84 | a | 85 | b | 86 | d | 87 | d | 88 | c | 89 | d | 90 | d |
| 91 | d | 92 | b | 93 | b | 94 | c | 95 | c | 96 | b | 97 | c | 98 | c | 99 | c | 100 | b |
| 101 | b | 102 | c | 103 | a | 104 | b | 105 | c | 106 | d | 107 | b | 108 | c | 109 | b | 110 | d |
| 111 | a | 112 | c | 113 | d | 114 | b | 115 | b | 116 | b | 117 | b | 118 | a | 119 | d | 120 | c |
| 121 | a | 122 | b | 123 | a | 124 | c | 125 | d | 126 | b | 127 | d | 128 | a | 129 | c | 130 | b |
| 131 | b | 132 | c | 133 | a | 134 | d | 135 | d | 136 | a | 137 | b | 138 | c | 139 | a | 140 | d |
| 141 | b | 142 | b | 143 | d | 144 | a | 145 | c | 146 | a | 147 | d | 148 | b | 149 | c | 150 | c |

1.  b   $11^{10-2x} = 1$

    $\Rightarrow 11^{10-2x} = 11^0$

    $\therefore 10 - 2x = 0$

    $\Rightarrow x = 5$

2.  c   Let the speeds of the trains be a m/s and b m/s.

    Therefore, length of first train = 25a

    and length of the second train = 15b

    Also, $\dfrac{25a + 15b}{a + b} = 21$

    $\Rightarrow 25a + 15b = 21a + 21b$

    $\Rightarrow \dfrac{a}{b} = \dfrac{3}{2}$

    Hence, the ratio of the speeds of the trains is 3 : 2.

3.  a   Total S.P. of both the bags = `600 × 2 = `1200

    C.P. of the bag sold at 20% profit = $\dfrac{100}{120}$ × 600 = `500

    C.P. of the bag sold at 25% loss = $\dfrac{100}{75}$ × 600 = `800

    Total C.P. of both the bags = 500 + 800 = `1300

    Net loss in the transaction = 1300 − 1200 = `100.

4.  d   It is given that −1 ≤ x ≤ 2 and 1 ≤ y ≤ 3.

    Minimum value of 2y − 3x is when y is minimum and x is the

    maximum, i.e., when x = 2 and y = 1.

    2y − 3x = (2 × 1) − (3 × 2) = − 4.

5.  c   C.P. of each orange when sold at 40% loss = ` $\dfrac{100}{60} \times \dfrac{1000}{32}$

Let the person sell 'x' oranges at 20% profit for `1000.

New C.P. of an orange = ` $\dfrac{100}{120} \times \dfrac{1000}{x}$

Therefore, $\dfrac{100}{60} \times \dfrac{100}{32} = \dfrac{100}{120} \times \dfrac{100}{x}$

$\Rightarrow x = 16$

Hence, he can sell 16 oranges at `1000 to make a profit of 20%.

**6.**    *    Variance ($\sigma^2$) is defined as $\sigma^2 = \dfrac{\sum\left(X - \overline{X}\right)^2}{N}$, where N is the number of observations and X is their mean.

Here, $\overline{X}$ = 35 and N = 5.

$\therefore \sigma^2 = \dfrac{\left(25 - 35^2\right) + \left(30 - 35^2\right) + \left(35 - 35^2\right) + \left(40 - 35^2\right) + \left(45 - 35^2\right)}{5}$

$= \dfrac{100 + 25 + 0 + 25 + 100}{5} = 50.$

*__Note:__ The correct answer '50' is not available in the given options.

**7.**    a    $2x^2 - 7x + 6 = 0$

$\Rightarrow 2x^2 - 4x - 3x + 6 = 0$

$\Rightarrow (x - 2)\left(x - \dfrac{3}{2}\right) = 0$

$\therefore x = 2$ or $\dfrac{3}{2}$

Hence, the largest value of x is 2.

**8.**    b    Let the distance of the journey be 'd' km.

When he travels at 48 kmph, time taken = $\dfrac{d}{48}$ hours

When he travels at 36 kmph, time taken = $\dfrac{d}{36}$ hours

As per the question,

$$\frac{d}{36} = \frac{d}{48} + \frac{15}{60}$$

Solving the equation, we get d = 36 km.

9.    d    Let the fraction be $\frac{x}{y}$.

According to the given question,

$$\frac{x+1}{y+1} = \frac{1}{2} \qquad\qquad ...(i)$$

and $\frac{x-1}{y-1} = \frac{1}{4}$ ...(ii)

Solving equations (i) and (ii), we get

x = 2 and y = 5

Hence, the required equation is $\frac{2}{5}$.

10.    b    Let the present age of Sonu be 'x' years.

His age 3 years ago = (x − 3) years

His age 2 years hence = (x + 2) years

According to the given question,

$2(x + 2) - 2(x - 3) = \frac{x}{2}$

Solving this equation, we get x = 20

Hence, Sonu's present age is 20 years.

11.    a    Let the present age of the father be x years.

Then, the age of his son = (48 − x) years

According to the given question,

(x − 5) (48 − x − 5) = 165

⇒ (x − 5) (43 − x) = 165

⇒ $x^2 - 48x + 380 = 0$

⇒ (x − 38) (x − 10) = 0

Therefore, x = 38 or 10.

Since the father cannot be aged younger than his son, so, x = 38.

Hence, the present age of the father is 38 years.

**12.**    c    It is given that $\dfrac{P}{Q}$ = 8.

Squaring both sides, we get

$\dfrac{P^2}{Q^2}$ = 64

Applying componendo and dividendo, we get

$\dfrac{P^2 + Q^2}{P^2 - Q^2} = \dfrac{64 + 1}{64 - 1} = \dfrac{65}{63}$ .

**13.**    a    $\dfrac{9a + 4b}{9a - 4b}$                               ...(i)

Here b ≠ 0, since $\dfrac{a}{b} = \dfrac{4}{3}$ .

Dividing the numerator and denominator of expression (i) by b, we get

$\dfrac{9\left(\dfrac{a}{b}\right) + 4}{9\left(\dfrac{a}{b}\right) - 4} = \dfrac{9 \times \dfrac{4}{3} + 4}{9 \times \dfrac{4}{3} - 4}$ = 2.

**14.**    d    Let the number be 'a'.

∴ 40% of $\dfrac{2}{5}$ × a = 24

⇒ $\dfrac{40}{100} \times \dfrac{2}{5} \times a$ = 24

⇒ a = 150

Hence, the required number is 150.

**15.**    b    Total number of balls = 4 Black + 6 White = 10

∴ Probability of drawing 2 White balls = $\dfrac{^{6}C_2}{^{10}C_2} = \dfrac{1}{3}$ = 0.33.

**16.**  d    In a pack of 52 cards,

number of clubs = 13

number of jacks = 4

Also, one card is both club as well as jack.

∴ Total number of cards that is either club or jack

= 13 + 4 − 1 = 16

∴ Required probability = $\dfrac{16}{52} = \dfrac{4}{13}$ .

**17.**  c    The height of an equilateral triangle of side 'a' = $\dfrac{\sqrt{3}}{2}a$

It is given that, $\dfrac{\sqrt{3}}{2}a$ = 12 ⇒ a = $\dfrac{24}{\sqrt{3}} = 8\sqrt{3}$ cm

Therefore, area of the equilateral triangle

$\dfrac{\sqrt{3}}{4}a^2 = \dfrac{\sqrt{3}}{4} \times \left(8\sqrt{3}\right)^2 = 48\sqrt{3}\ cm^2$ .

**18.**  a    10 women can complete the piece of work in 8 days

∴ 5 women can complete the same work in 8 × 2 = 16 days

10 children can complete the same piece of work in 16 days

Therefore, 5 women and 10 children can complete the same piece of

work in = $\dfrac{1}{\dfrac{1}{16} + \dfrac{1}{16}}$ = 8 days.

**19.**  c    $\dfrac{(0.6)^4 - (0.5)^4}{(0.6)^2 - (0.5)^2} = \dfrac{\left[(0.6)^2 + (0.5)^2\right]\left[(0.6)^2 - (0.5)^2\right]}{(0.6)^2 + (0.5)^2}$

= $(0.6)^2 - (0.5)^2$ = (0.6 + 0.5) (0.6 − 0.5) = 0.11

**20.**  d    Arithmetic mean of 'n' numbers = $\dfrac{\text{Sum upto n terms}}{n}$

⇒ Sum of n terms = n $\overline{X}$

Sum of (n − 1) terms = k

$\therefore$ nth term = $S_n - S_{n-1} = n\overline{X} - k$.

**21.**    c    Let the number be N.

When divided by 4, N leaves a remainder of 2.

$\therefore N = 4x + 2$

Again, when the quotient, x is divided by 2, it leaves a remainder 1.

$\therefore x = 2y + 1$

$\therefore N = 4(2y + 1) + 2 = 8y + 6$.

Hence, when divided by 8, the number leaves a remainder of 6.

**22.**    a    $\log x^2 y^4 = a \Rightarrow 2\log x + 4\log y = a$    ...(i)

$\log \dfrac{x}{y} = b \Rightarrow \log x - \log y \, b$    ...(ii)

Solving equations (i) and (ii), we get

$\log x = \dfrac{a + 4b}{6}$   and $\log y = \dfrac{a - 2b}{6}$

Hence, $\dfrac{\log x}{\log y} = \dfrac{a + 4b}{a - 2b}$

**23.**    b    Till 10:00 a.m., A will travel 30 km.

At 10:00 a.m., distance between A and B is (180 − 30) = 150 km and both are moving towards each other.

Therefore, they will meet after $\dfrac{150}{30 + 20}$ = 3 hours, i.e., at 1:00 p.m.

**24.**    b    Ratio of the shares of profit of A, B and C = 1000 : 600 : 400 = 5 : 3 : 2

Let the investment of C be `x.

$\therefore \dfrac{20000}{x} = \dfrac{5}{2}$

$\Rightarrow x = 8000$

Hence, the investment of C is 8,000.

**25.**    b    Let the number of students in the class be 100.

Number of students passed in English = 100 − 52 = 48

Number of students passed in Maths = 100 − 40 = 60

Number of students who passed in English or Maths or both

= 100 − 20 = 80

∴ Number of students who passed in both the subjects

= 48 + 60 − 80 = 28.

**26.**  a  Let Mohan and Rohan travel for 't' seconds after which they are 20 m apart.

Distance traveled by Mohan = $\dfrac{40}{5}t$ = 8t

Distance traveled by Rohan = $\dfrac{30}{4}t$ = 7.5t

As per the question,

8t − 7.5t = 20

⇒ t = 40

Hence, in 40 seconds, Mohan must have traveled 8 × 40 = 320 meters.

**27.**  c  Let the two numbers be x and y, where x < y.

As per the given question,

$\dfrac{x}{y} = \dfrac{1}{2}$ ...(i)

$\dfrac{x+4}{y+4} = \dfrac{5}{8}$ ...(ii)

Solving equations (i) and (ii), we get

x = 6 and y = 12.

Hence, the bigger number is 12.

**28.**  d  ∠BCT + ∠TCA = 180°

∠TCA = 180° − ∠BCT = 180° − 130° = 50°

Since AT is a tangent at point A, ACB is perpendicular to AT.

In right triangle ΔTAC, ∠ATC + ∠TCA = 90°

⇒ ∠TCA = 90° − 50° = 40°.

**29.** c The two equations can be rewritten as

$2x + y = 7$ and $3x - 2y = 0$

By solving the two equations, we get $x = 2$ and $y = 3$

Hence, $y - x = 3 - 2 = 1$.

**30.** d Let the cost of a Hard disk, Printer, Scanner and Computer be H, P, S and C respectively.

It is given that

$6H = 9P$ ...(i)

$27P = 30S$ ...(ii)

$300S = 9C$ ...(iii)

Combining (i), (ii) and (iii), we get

$60H = 90P = 100S = 3C$

It is given that $3C = 72000$

$\therefore H = \dfrac{72000}{60} = \text{`}1200$.

**31.** a Let the number of mangoes in baskets A and B be a and b respectively.

According to the given question,

$a - 10 = b + 10$

$\Rightarrow a - b = 20$ ...(i)

and $a + 20 = 2(b - 20)$

$\Rightarrow 2b - a = 60$ ...(ii)

Solving equations (i) and (ii), we get

$a = 100$ and $b = 80$.

Hence, the original number of mangoes in basket A is 100.
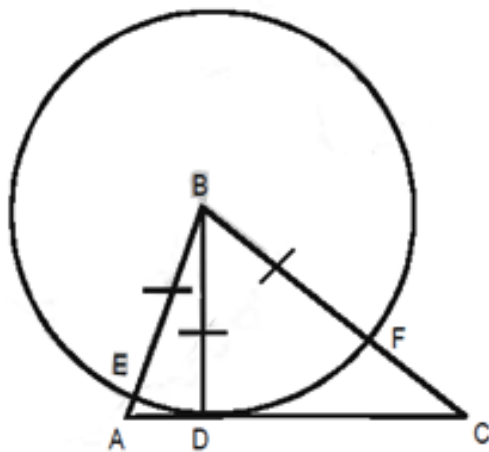
**32.** b

Let the length of BD be x.

Therefore, BE = BF = BD = x (radii of same circle)

Using Heron's formula,

$$\Delta = \sqrt{s(s-a)(s-b)(s-c)}$$

Here, a = 8, b = 10, c = 6 and s = 12

$$\therefore \Delta = \sqrt{12 \times 4 \times 2 \times 6} = 24$$

Again, $\Delta = \dfrac{1}{2} \times AC \times x$

$$\Rightarrow x = \dfrac{24 \times 2}{10} = 4.8$$

Therefore, required ratio of AE : CF = (6 − 4.8) : (8 − 4.8)

= 1.2 : 3.2 = 3 : 8.

**33.** b   Let the original cost of an I-pad be I and that of a mobile be `M.

It is given that I = 3M

Original cost of 10 I-pads and 5 mobiles = 10I + 5M = `35M

New cost of 10 I-pads and 5 mobiles = 1.1 × 10I + 1.18 × 5M

= 11 I + 5.9M = `38.9M

Hence, percentage increase in cost

$$= \dfrac{38.9M - 35M}{35M} \times 100 = 11.14\%.$$

**34.** a   Let the cost price of the article be `y

∴ 0.9 × y = 1800

⇒ y = 2000

Therefore, to earn a profit of 10%, he must sell the item at =

1.1 × y = 1.1 × 2000 = `2200.

**For questions 35 to 40**

Basic salary = `5000

Petrol allowance = 20% of `5000 = `1000

Total income = `6000

PF = 10% of `5000 = `500

Take home salary = 6000 − 500 = `5500

**35.** b   House rent = 22% of `5500 = `1210.

**36.** d   Expenditure on food and entertainment = 28% + 12%

= 40% of `5500 = `2200

**37.** c   Expenses on children's education = 25% of `5500 = `1375

Therefore, maximum savings including PF = 1375 + 500 = `1875.

**38.** a   After PF deduction and house rent, amount left

= (100 − 22)% of `5500 = `4290.

**39.** a   PF deduction = 10% of `5000 = `500.

**40.** c   Allowance due to inflation = 15% of `5000 = `750

Hence, gross income = 6000 + 750 = `6750

**41.** c   Andy Murray

**42.** a   light

**43.** d   Infrastructure

**44.** b   2 and 3 only

**45.** a   France

**46.** d   all of the above

| | | |
|---|---|---|
| **47.** | a | Aircel |
| **48.** | a | Bomb |
| **49.** | b | Mediterranean with Red Sea |
| **50.** | b | Orissa |
| **51.** | a | South Indian Bank |
| **52.** | d | Jawahar Lal Nehru |
| **53.** | b | Paleontology |
| **54.** | c | Sales Tax |
| **55.** | d | All of the above |
| **56.** | c | Department of Detection of Financial Frauds |
| **57.** | c | Income Tax |
| **58.** | d | Euronext |
| **59.** | d | 2,00,000 |
| **60.** | c | 3 months |
| **61.** | a | Turkish Lira |
| **62.** | a | Union |
| **63.** | c | the Shareholders in the annual general meeting |
| **64.** | a | Simone Tofa |
| **65.** | c | LIC |
| **66.** | b | Amartya Sen |
| **67.** | a | A Women Enumerator |
| **68.** | b | horses |
| **69.** | a | Star |
| **70.** | c | Mickey |
| **71.** | a | Bactria |

| 72. | a | First hour of the sitting |
|---|---|---|
| 73. | b | 16 December |
| 74. | a | Circuit Filter |
| 75. | b | Ralson Tyres |
| 76. | c | Portugal |
| 77. | d | None of these |
| 78. | a | GMR Group |
| 79. | c | Tomas Transtrome |
| 80. | b | 1000 |

**81.** c The word 'minion' refers to someone who is a servile dependant, a follower who obeys orders.

Therefore, option (c) – 'follower' is the correct answer.

**82.** b 'Platitude' refers to a commonplace, unoriginal or stale remark.

Therefore, option (b) – 'a trite phrase', meaning not fresh or boring from much use, is the correct synonym.

Option (a) – 'condolence' is an expression of sympathy.

**83.** c A 'polemic' is the skill of arguing for or against something or somebody. Hence, option (c) – 'a contentious argument', wherein 'contentious' means likely to cause disagreement, is the correct answer.

**84.** a The word 'leitmotif' refers to an idea or phrase that is repeated.

Hence, option (a) – 'recurring theme' is the correct answer.

**85.** b The word 'iridescent' means having or exhibiting light.

Therefore, the correct answer is option (b) – 'luster', which means a glow of light. Option (a) – 'blaze' means to shine or burn brightly. The intensity of light in 'blaze' is much greater than that in 'luster' and hence, it is an incorrect option.

**86.** d The word 'exhausted' means very tired and therefore, the use of 'highly' (which also means 'very') in the phrase 'highly exhausted' is redundant and hence, incorrect.

**87.**    d    Headlines are always written in present tense and news reports in the past tense. Therefore, the correct tense to be used in this sentence is option (d) – 'wins'.

**88.**    c    'Try as I might...' is an idiomatic expression and a very common phrase in the English language. Therefore, option (c) is the correct answer.

**89.**    d    The choice between using 'a' and 'an' before a word is determined by sound and not by the first alphabet of the word. Therefore, though the word 'MP3 player' starts with the consonant 'm', it technically begins with the vowel sound 'em' and hence, the indefinite article 'an' should be used before it. Using 'the' before 'MP3 player' would be incorrect as 'the' is a definite article and is used while talking about a particular thing. The given sentence talks about just any MP3 player and hence, does not need a definite article before it. Similarly, the definite article is not required before 'New Year's gift' in the context of the sentence and the correct article to be used before it is 'a'. Therefore, option (d) is the correct answer.

**90.**    d    'Who' is the correct relative pronoun to fill in the first blank with and in the second sentence, the correct pronoun to be used should be 'whom'. 'Who' is a subject pronoun, which means that it denotes the doer of the action and 'whom' is an object pronoun, which means it works as an object in a sentence. In the first sentence – 'Who shall I say is calling?', 'who' is the subject and in the second sentence – 'Whom do you advice the most?', 'you' is the subject and 'whom' is the object. Therefore, option (d) is the correct answer.

**91.**    d    The correct phrase to fill in the blank is option (d) – 'force down', which means to lower something or to push something downwards. The other options do not fit in the context of the meaning. Option (a) – 'wipe off' means to remove something; option (b) – 'cap off' means to finish or complete something and option (c) – 'sweep aside' means to treat something as unimportant.

**92.**    b    The sentence talks about something that the TOEFL office has to do in the future time. In such cases, the simple present tense is often used. Here, option (b) is the correct answer as the singular verb 'confirms' appropriately agrees with the singular subject 'office'.

**93.**    b    A compound sentence contains two independent clauses joined by a conjunction. A complex sentence has one independent clause joined by one or more dependent clauses. The given sentence - My family watches cricket matches on television but never goes to the stadium.

- contains one independent clause and one dependent clause. It is therefore, a complex sentence and hence, option (b) is the correct answer.

94.    c    Question marks and exclamation marks are written inside the quotation only if they are a part of the original sentence. In the given question, the exclamation is part of the sentence and hence, should be inside the quotation. Therefore, option (c) is the correct answer.

95.    c    The word 'tetchy' means bad-tempered or likely to get angry easily. Therefore, option (c) – 'irritable' is the correct answer.

96.    b    The word 'scurrilous' means very rude and insulting and intended to damage somebody's reputation. Hence, option (b) – 'insulting' is the correct answer.

97.    c    To 'castigate' means to criticize somebody or something severely. Therefore, option (c) is the correct answer.

98.    c    The words 'original', which means something that is different from anything that has existed before and 'innovative' meaning new ideas are synonymous and would not alter the meaning of the sentence if used interchangeably. Therefore, option (c) is the correct answer.

99.    c    The correct spelling of the underlined word is 'pyrrhic'. Hence, option (c) is the correct answer.

100.    b    A sentence is active if the subject is the doer of the action and passive if the subject is the receiver of the action. The structure of a passive voice is : subject + auxiliary verb (be) + main verb (in the past participle form). The object of the verb becomes the subject in the passive voice. In this sentence, only option (b) has the correct structure of the auxiliary verb followed by the main verb and hence, is the correct answer.

101.    b    The word 'who' in this sentence is a relative pronoun. A relative pronoun refers or to relates to some noun before it, which is called its antecedent. Here, the antecedent to which 'who' is referring to, is 'Atul'. Therefore, the correct answer is option (b).

102.    c    The words 'luscious', which means having a pleasant taste and 'acrid, meaning an unpleasant, bitter taste are antonyms and hence, option (c) is the correct answer. The word 'limpid' means clear and 'benign' means kind and gentle.

**103.** a  The words 'prolixity', which means marked by an excess use of words and 'brevity', meaning the quality of using few words, have an antonymous relationship and hence, option (a) is the correct answer. 'Agreement' means an arrangement or a contract made with somebody and 'proposition' refers to an idea or a plan of action that is suggested, especially in business.

**104.** b  Sentence 5 is clearly the introductory sentence as it introduces

the concept of the anthology – which is a vast body of work.

2 has to follow as the 'they' in 2 refers to the 'overlapping of

material and several typos' that is mentioned in 5. This

mandatory pair – 5 and 2 is present in its proper order only in

option (b) and hence, it is the correct answer.

**105.** c  Options (a) and (d) can be negated because both sentences 5 and 3 have a pronoun without an antecedent in them. The phrase 'this accessory' in 5 and the pronoun 'its' in 3 must refer to something and hence, these cannot be the introductory sentences. Sentences 6 and 3 form a mandatory pair because 6 tells us how the tie was part of the elite fashion and 3 continues with the same argument by saying that the tie's appeal shifted to the masses only after the industrial revolution. This pair is there in its proper order in option (c) and hence, it is the correct answer.

**106.** d  The correct structure of the sentence should be '...not only...but also...' and so, it can be understood that 6 will follow 1. Hence, option (d) gives the correct sequence of the words and is the correct answer.

**107.** b

**108.** c

**109.** b  The word 'relegate' means to assign a place of insignificance. Therefore, option (b) is the correct option.

**110.** d

**111.** a

**112.** c  The correct sentence is 'The CEO... has decided...' because the subject to which the verb should agree is 'The CEO' and not 'his managers'. The conjunction 'together with' does not conjoin the

subjects and in such cases the first subject is considered. Therefore, option (c) is the correct answer.

**113.** d  The conclusion that is stated in the given passage is that people who want to buy a minivan exclusively on the basis of safety, should buy XYZ minivans as their system of brakes have been proved to be better than others on an average. However, we understand that the author is making his conclusion on the basis of a single factor (brakes). Option (d) correctly weakens the conclusion as it provides another basis by which safety of a minivan can be judged (frontal crash tests) wherein, XYZ minivans did not perform as well as the others.

**114.** b  The phrase 'secure fastened' is incorrect. 'Fastened' is performing the function of a verb in the given sentence and 'secure' is an adjective whereas it should have been an adverb (since, an adverb modifies a verb and an adjective modifies a noun). The appropriate phrase should have been 'securely fastened' and hence, option (b) is the correct answer.

**115.** b  The antecedent to which the pronoun 'their' (used in the middle of the sentence) is referring to in the sentence is the singular 'Pickerel frog' and so, the use of the plural pronoun is incorrect. The appropriate pronoun that should be used is 'its'. Hence, option (b) is the correct answer.

**116.** b  In 'neither A...nor B' sentences, the verb agrees with the second subject, that is B. In the given sentence, the singular 'economics department' is the subject to which the verb should agree. Therefore, the correct form of the verb should be 'requires' (singular) and not 'require' (plural). Hence, option (b) is the correct answer.

**117.** b  The correct phrase to fill in the blank is option (b) – 'two pieces of equipment'. The word 'equipment' is in itself a plural word (it means the things that are needed for a particular purpose or activity) and hence, the term 'equipments' is an incorrect word.

**118.** a  The word 'drink' functions as the name of a liquid in the given sentence and is hence, a noun. Therefore, option (a) is the correct answer.

**119.** d  The word 'glamorous' is describing the noun 'dance' in the given sentence and hence, is working as an adjective. Therefore, option (d) is the correct answer.

**120.** c  The preposition 'with' is the correct word to fill in the blank. 'With' is being used in the sense of what fills or covers something.

**121.** a     Total cubes formed = $3^3$ = 27.

**122.** b     The cubes with only one face painted and that is Black in color will be the central cubes on the top and bottom faces of the cube. Hence, there are two such cubes.

**123.** a     The total number of smaller cubes with no face painted = $(3 - 2)^3$ = 1.

**124.** c     Smaller cubes situated at the corners of the larger cube will have three of its faces panted. Hence, there are 8 such cubes.

**125.** d     The pattern followed here is

$$A \xrightarrow{+3} D$$
$$I \xrightarrow{+3} L$$
$$R \xrightarrow{+3} U$$

Hence, the code for 'PLANE' is 'SODQH'.

**For questions 126 to 129: From the given data, the following two combinations are possible**
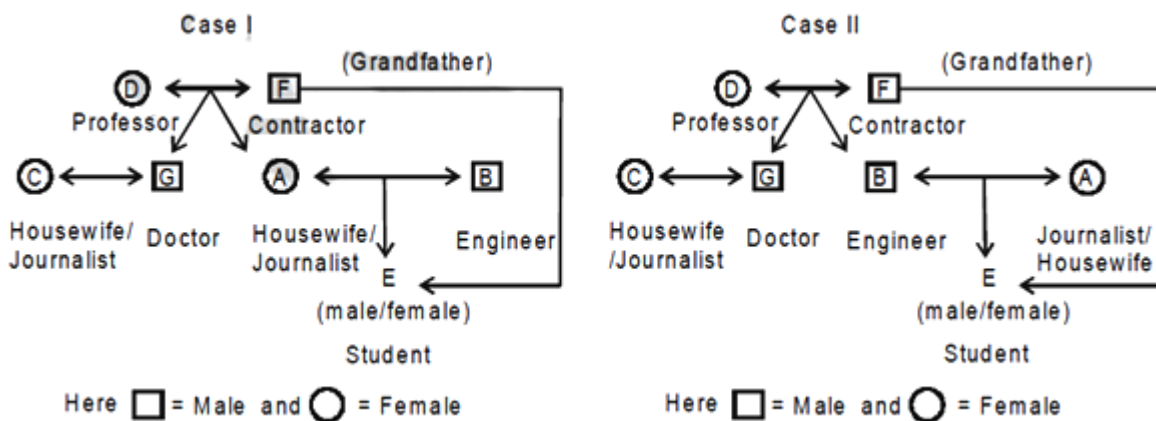


**126.** b     G is the husband of C.

**127.** d     C is the aunt of E.

**128.** a     The three married couples are (A, B), (D, F) and (C, G).

**129.** c     A, D and C are definitely the females in the family.

**130.** b     The difference between the alphabetical positions of letters in first row is 5.

i.e. G(7) − C(3) = K(11) − G(7) = 4

The difference between the alphabetical positions of letters in second row is 6.

i.e. L(12) − G(7) = Q(17) − L(12) = 5

In the third row, R(18) − L(12) = 6

Hence, the missing letter is R(18) + 6 = X(24).

## For questions 131 to 134:

**131.** b    College students who are dancers but not singers are represented by the region R.

**132.** c    College students who are singers but not dancers are represented by the region S.

**133.** a    College students who are dancers as well as singers are represented by the region T.

**134.** d    College students who are neither dancers nor singers are represented by the region P.

## For questions 135 to 136:

**135.** d    It is given that P = 1 and Q = 3.

$$P\#Q \quad \frac{1+1\times 3}{3} = \frac{4}{3}; \quad P?Q = \frac{3+1\times 3}{1} = 6$$

$$\therefore a = \frac{4}{3} + 6 = \frac{22}{3}$$

Similarly, we get b = $-\dfrac{2}{3}$

Hence, a#b = $\dfrac{\dfrac{22}{3}+\dfrac{22}{3}\left(\dfrac{-2}{3}\right)}{-\dfrac{2}{3}} = -\dfrac{11}{3}$
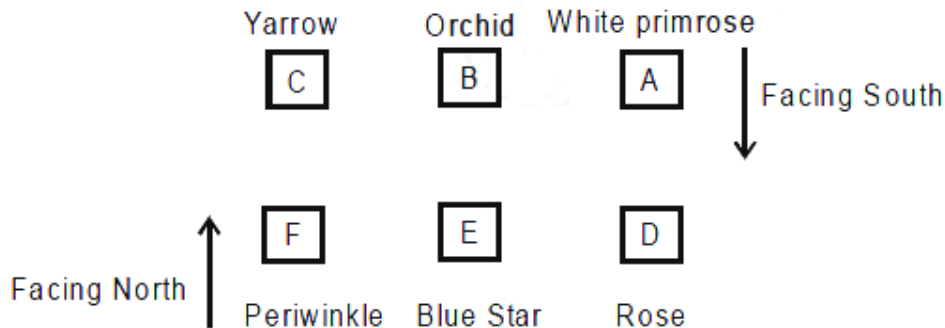
**136.** a    Here P = 1 and Q = 2.

$$P @ Q = \frac{2-1\times 2}{1} = 0$$

Hence, the value of the given expression is 0.

For questions 137 to 140:

From the analysis of the given information, the final arrangement of houses is given as follows.



| 137. | b | B lives in the Orchid bungalow. |
| 138. | c | E lives in the Blue Star bungalow. |
| 139. | a | A lives to the immediate left of B. |
| 140. | d | Periwinkle bungalow faces North and is at the leftmost position. |

**141.** b    In first figure, 583 + 146 = 729.

In third figure, 482 + 157 = 639.

No such pattern is observed in figure (2).

**142.** b    In a minimum of 7 steps, 51432 can be converted to 12345 using single switching.

**143.** d    The number 165324 cannot be converted to 123456 using double switch.

**144.** a    In a minimum of 3 steps, 653124 can be converted to 123456 using random switch.

Step 1: 1 5 3 6 2 4

Step 2: 1 2 3 6 5 4

Step 3: 1 2 3 4 5 6

**145.** c    The vowels are given values as :

A - 1, E - 2, I - 3, O - 4, U - 5.

Sum of vowels from word COMPATIBLE is 4 + 1 + 3 + 2 = 10.

Sum of vowels from word CURIE is 5 + 3 + 2 = 10.

Sum of vowels from word AUDIENCE is 1 + 5 + 3 + 2 + 2 = 13.

Sum of vowels from word UNDERGONE is 5 + 2 + 4 + 2 = 13.

**For questions 146 to 148**
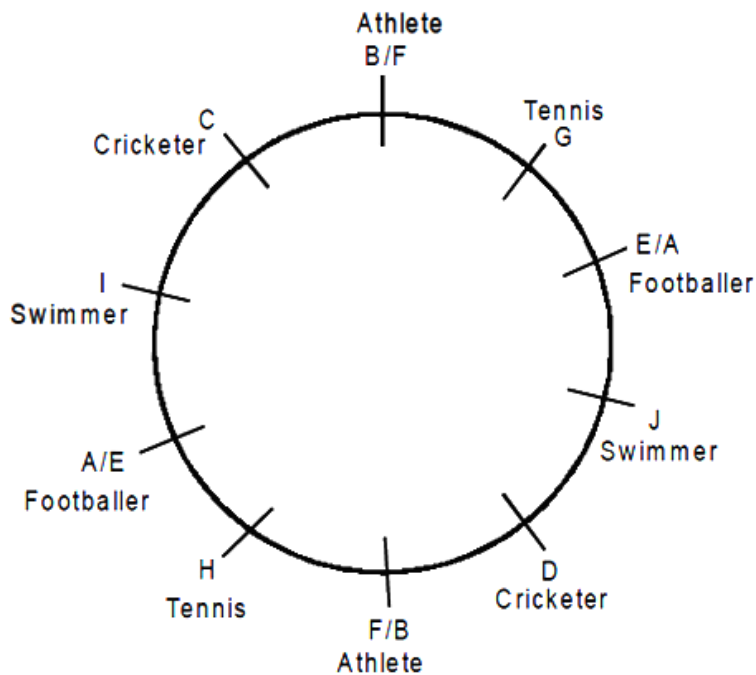


**146.** a    G plays Tennis.

**147.** d    If F, D and J sit together, one of the neighbors of H is F and the other can be either A or E.

**148.** b    If F, D and J sit together, B sits to the immediate left of C.

**149.** c    Statements 1 & 4 are verifiable and hence facts. Statements 2 and 3 are personal opinions / judgments.

**150.** c    Statements 1 & 3 are facts. Statement 2 is an opinion expressing approval and hence a judgment. Statement 4 is an inference -a conclusion about the unknown based on the reasoning offered in the statement.