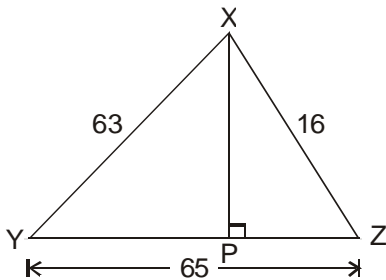# QUANTITATIVE ABILITY

1. In a school of exactly 300 students, every student reads exactly 5 magazines and every magazine is read by exactly 60 students. The number of magazines is
   a. 25
   b. 30
   c. 360
   d. 75

2. If $\frac{1}{3}a = \frac{1}{4}b = \frac{1}{5}c = \frac{1}{6}d$, then which of the following is valid? (a, b, c, d not being equal to zero)

   a. a : b : c : d = 20 : 15 : 12 : 10
   b. a : b : c : d = 6 : 5 : 4 : 3
   c. a, b, c and d are in AP
   d. None of these

3. ABCD is a trapezium with AB || CD, AB = 6 cm, BC = 5 cm, CD = 3 cm, DA = 4 cm. The area of ABCD is
   a. 18 cm^2
   b. 24 cm^2
   c. 12 cm^2
   d. Data insufficient

4. How many integer solutions exist for the equation $x^2 - y^2 = 286$?
   a. 2
   b. 3
   c. 4
   d. No integer solution exists

5. A park is in the shape of a regular hexagon 4 km on a side. Starting from a corner, Vijay walks along the perimeter of the park for a distance of 10 kms. How many kilometres is he from his starting point (shortest distance)?

   a. $2\sqrt{13}$ km
   b. $3\sqrt{13}$ km
   c. $2\sqrt{11}$ km
   d. $3\sqrt{11}$ km

6. Consider the ΔXYZ given below.

   Find the length of the perpendicular XP drawn on the side YZ.
   a. 15.5 units
   b. 12.5 units
   c. 13.5 units
   d. 15 units

7. For how many integer values of V, $(V + 1)^2$ is greater than $5V - 1$ and less than $(7V - 3)$?
   a. 3
   b. 2
   c. 1
   d. 0

8. The difference between the roots of the equation $4x^2 + Kx + 9 = 0$ is 4. If $K \geq 1$, then the value of K is

a. 20   b. 10

c. 5   d. 15

9. For every order of 15 rackets received, 4 rackets are found to be defective. Rackets are selected at random one by one and are examined. Racket once taken out is not replaced. What is the probability that the ninth one examined is the last defective?

a. $\dfrac{8}{195}$ b. $\dfrac{8}{200}$ c. $\dfrac{5}{197}$ d. None of these

10. Three cylinders each of height 8 cm and radius of base 2 cm are placed on a plane so that each cylinder touches the other two. Then the volume of the region enclosed between the three cylinders will be

a. $8\left(\sqrt{3} - \pi\right)$ cm^3 b. $16\left(2\sqrt{3} - \pi\right)$ cm^3

c. $16\left(\sqrt{3} - \pi\right)$ cm^3 d. $8\left(2\sqrt{3} - \pi\right)$ cm^3
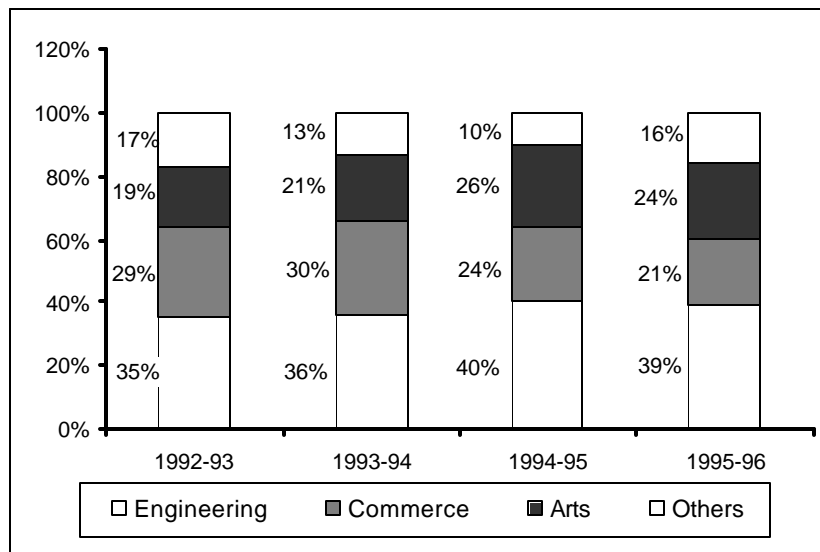
LRDI

Directions for questions 1 to 3: Answer the questions based on the following information.

The following data refers to a survey carried out in four cities Mumbai, Delhi, Kolkata and Chennai regarding the number of children in each family.

Families having children less than	Number of families surveyed			
	Mumbai	**Delhi**	**Kolkata**	**Chennai**
1	100	75	60	80
2	150	150	120	100
3	250	200	200	150
4	450	350	300	200

1. What is the total number of families surveyed across the four cities who have exactly 3 children?
   a. 450   b. 500   c. 350   d. 280

2. What is the total number of children among the families surveyed in Delhi?
   a. 2,375   b. 850   c. 625   d. Cannot be determined

3. What percentage of families surveyed in Kolkata, have less than 3 children but greater than 0?
   a. 46.66%   b. 66.66%   c. 55.88%   d. None of these

Directions for questions 4 and 5: The graph below gives the percentages of students belonging to various disciplines enrolled with a management institute IMD, Gurgaon. The total number of students in IMD was 5,000 in 1992-93 and it has been growing at the rate of 20% every year since then.

4. The average number of students per year during the period 1992-93 to 1995-96 was
   a. 5,256   b. 6,710   c. 6,924   d. None of these

5. IMD expects the total number of students to grow by 30% from 1995-96 to 1996-97. If it expects 50% of the additional students to come from the engineering stream, then what is the average annual growth rate of engineering students from 1992-93 to 1996-97?

a. 41.6% b. 166.4% c. 128.5% d. 32.6%

Directions for questions 6 and 7: Each question is followed by two statements, I and II. Answer the questions using the following instructions.

Mark your answer as
a. if the question can be answered by one of the statement alone, but cannot be answered by using the other statement alone.
b. if the question can be answered by using either statement alone.
c. if the question can be answered by using both the the statements together, but cannot be answered by using either statement alone.
d. if the question cannot be answered even by using both the statements together.

6. In a family, Q is A's son. Y is the niece of P. Z is granddaughter of M. Q has only one child. Who is mother of Z?
I. M is daughter-in-law of A.
II. The couples A and B have only 2 children — P and Q, both of opposite sexes.

7. Four players are good at different games. A is very poor in hockey and cricket. C and D are very poor in basketball. Who is a good player of cricket?
I. C is a hockey player.
II. D cannot play cricket.

Directions for questions 8 to 10: Answer the questions based on the following information.
Following table shows the distribution of seats won and the vote share secured (in percentage) across parties in the Assembly Elections of Mizoram held in 2003 and 1998. Vote share is defined as the percentage of the total votes secured by the party.

Party	Seats won		Vote share in percentage	
	2003	**1998**	**2003**	**1998**
MNF	21	21	31.7	24.9
Congress	12	6	30.1	26.4
MZPC	3	12	17.2	20.4
ZNP	2	0	14.7	3.4
Others	2	0	3.8	15.1
Independents	0	1	2.5	9.8

8. What is the percentage increase of vote share in 2003 over that in 1998 for MNF?

a. 28% b. 29% c. 27.5% d. 27.3%

9. If the total number of voters in 2003 was 1,50,000, how many more votes did Congress received in 2003 compared to 1998?

a. 50%   b. 52%   c. 61%   d. Cannot be determined

10. Which party won the maximum number of votes in 2003 and which party had the maximum gain in number of seats won in 2003 over 1998 respectively?

a. MNF, Congress   b. ZNP, MNF   c. Congress, ZNP   d. None of these

VERBAL ABILITY

Directions for questions 1 and 2: In each of the following sentences, parts of the sentence are left blank. Beneath each sentence, four different ways of completing the sentence are indicated. Choose the best alternative from among the four.

1. The photograph is ___ with suspense — the viewer cannot see the truth — the door ___ a private truth.
   a. imprinted ... bears the marks
   b. pregnant ... blocks out
   c. filled ... reveals
   d. quivering ... hides

2. Any doubts about the Prime Minister's weakening hold on his own party MPs were ___ when, in the most dramatic defiance yet on his authority, more than 300 MPs of his party contemptuously___ the official line and voted for a complete ban on fox hunting.
   a. eliminated ... went against
   b. reinforced ... voted for
   c. removed ... shrugged off
   d. reinforced ... vetoed

Directions for questions 3 to 5: The sentences given in each question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

3. A. In a number of cases the drivers have refused to ferry passengers according to the meter-reading despite it being in a working condition.
   B. For instance, according to a complaint, the driver of an autorickshaw not only misbehaved but also ran away with Rs. 500 from Dhaula Kuan on September 13.
   C. Refusal to carry commuters to their respective destinations is another common complaint which has been lodged with the call centres.
   D. What have been most shocking are the complaints about misbehaviour by the autorickshaw drivers with the passengers.
   E. Similarly, another driver ran away with the luggage of the passenger on the Karol Bagh-Paschim Vihar route.
   a. DACBE   b. DCBAE   c. ABCDE   d. ACDBE

4. A. Overcoming the notion that the black audience is not worth big advertising bucks will take time.
   B. BET is attacking racism in the media from another angle as well.
   C. BET is also speaking out publicly about the disparity in advertising rates between black-oriented media and similar-sized non-cable networks.
   D. Smiley, a BET talk show host, was instrumental in coordinating 10 weeks of protests by African Americans demanding that the company advertise in black media outlets.
   E. As President and CEO of Black Entertainment Television, Johnson has become a powerful media force, capable of directly influencing how African Americans are both perceived and portrayed by television culture.
   a. ABCDE   b. EBDCA   c. DBCAE   d. EBCDA

5. A. This outcome can be avoided to the extent that European governments and peoples are willing to bear the costs of restricting such immigration.

B. Hence, substantial immigration is likely to produce countries divided into Christian and Muslim communities.

C. European societies either do not want to assimilate immigrants or have great difficulty doing so, and the degree to which Muslim immigrants and their children want to be assimilated is unclear.

D. The problem of Muslim demographic invasion is, however, likely to weaken as population growth rates in some countries peak, and then decline.

E. In so far as demographic pressure stimulates immigration, Muslim immigration could be much less by 2025.

a. EDACB   b. CBADE   c. CABDE   d. EDCAB

Directions for questions 6 to 8: Fill in the blanks in the following paragraph.

Paragraph

Of the hundreds of San Blas islands that dot the Caribbean coast of Ponnama, only 50 are inhabited, primarily by the Cuna people. The chief claim to fame of the …6… of these islands lies with the women; leisure magazines, travelogues and movies often featuring their dazzling …7… beauty, complete with nose rings and beaded ankles and wrists. If the women are their society's ambassadors to the world, then the mola cloths that they create and wear are their flags. The …8… theme represented in mola design is nature. The earliest examples were abstract interpretations of the texture of brain coral.

6. a. denizens   b. remnants
       c. landscape   d. animals

7. a. exhaustive   b. different
       c. exotic   d. gory

8. a. paramount   b. underlying
       c. passing away quickly   d. exotic

Directions for questions 9 and 10: Choose the most precise and logical sentence from among the four given alternatives.

9.
    a. There is something wrong when CEOs, board members and upper-level corporate managers get millions in pay and benefits while lower-level managers and rank-and-file employees are paid off or asked to give back pay and benefits for the 'good of the company'.

    b. There is something wrong when CEOs, board members and upper-level corporate managers get millions in pay and benefits while lower-level managers and rank-and-file employees are laid of or asked to give back pay and benefits for the 'good of the company'.

    c. There is something wrong when CEOs, board members and upper-level corporate managers get millions in pay and benefits while lower-level managers and rank-and-file employees are laid off or asked to give back pay and benefits for the 'good of the company'.

    d. There are something wrong when CEOs, board members and upper-level corporate managers get millions in pay and benefits while lower-level managers and rank-and-file employees are laid off or asked to give back pay and benefits for the 'good of the company'.

10.
    a. As a parent of a bright but dyslexic child, I find it especially helpful to share articles like yours with teachers, who are often skeptical about the condition and unaware of what can be done about it.

    b. As a parent of a bright but dyslexic child, I find it especially helpful to share articles like yours with teachers, who are often skeptical about the condition and aware of what can be done about it.

    c. As a parent of a bright and dyslexic child, I find it especially helpful to share articles like yours with teachers, who are often skeptical about the condition and unaware of what can be done about it.

    d. As a parent of a bright but dyslexic child, I find it especially helpful to share articles like yours with teachers, who are skeptical often about the condition and unaware of what can be done about it.