



(Test Ref.: AIMCAT1213)

INSTRUCTIONS

1. Read the instructions given at the beginning/end of a section or group of questions very carefully.
2. The test has two sections, I and II. The time available for each section is 70 minutes. You cannot return to section I once you have started to answer section II.
3. **Pattern of the test and marking scheme**

Section	Number of questions	Marks per question	Negative marks
Quantitative Ability + Data Interpretation	30	3	1
Verbal Ability + Logical Reasoning	30	3	1
Total	60	-	-

4. You are expected to show your competence in both the sections.
5. Each wrong answer will attract a penalty of one mark.
6. There are no negative marks for unattempted questions.
7. You can navigate to any question of your choice within a section.
8. During the test, you can mark questions for review and return to them at a convenient time.
9. An answer once marked can be changed any number of times before submitting the test. However the last marked answer will be considered as the final answer.
10. Do not carry calculators, slide rules or any other calculating devices. Do not carry any other papers with you except your HALL TICKET. Rough papers for calculations will be provided.

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Ref: AIMCAT1213

INSTRUCTIONS

1. Read the instructions given at the beginning/end of each section or at the beginning of a group of questions very carefully.
2. This test has two sections with 60 questions – 30 questions in each section. The TOTAL TIME available for the paper is **140 minutes**. The time available for each section is 70 minutes and you cannot return to the first section once you have started the second section.
3. You are expected to show your competence in both the sections.
4. All questions carry three marks each. Each wrong answer will attract a penalty of one mark.

SECTION – I
Number of Questions = 30

DIRECTIONS for questions 1 to 12: Answer the questions independently of each other.

1. The units digit of each of X and Y when expressed to the base n is a . If the units digit of $\left(\frac{X+Y}{2}\right)$ when expressed to the base n is either 2 or 5, find n .
(1) 8 (2) 6 (3) 10 (4) 12
2. The equation $lx + my + n = 0$ represents a family of straight lines passing through a fixed point R. If 1 and -2 are two of the three roots of the equation $lx^3 + mx^2 + nx + p = 0$, what are the coordinates of the point R?
(1) (1, -2) (2) (-2, 1)
(3) (3, -1) (4) (3, 1)
3. If the two equations $x^2 + px + q = 0$ and $x^2 + lx + m = 0$ have exactly one common root, then how many of the following three statements can be true?
 - I. The common root is $\frac{pm - ql}{q - m}$
 - II. The common root is $\frac{q - m}{l - p}$
 - III. The square of the common root is $\frac{pm - ql}{l - p}$
 (1) 0 (2) 1 (3) 2 (4) 3
4. If the expressions $a_1 - 2a_2$, $2a_2 - 3a_3$, $3a_3 - 4a_4$ and $4a_4 - a_1$ are in arithmetic progression, what is the ratio of a_1 and a_2 ?
(1) 2 : 1 (2) 4 : 1
(3) 8 : 1 (4) Cannot be determined
5. Find the highest power of 2 in the product $1005 \times 1006 \times 1007 \times \dots \times 2009$.
(1) 993 (2) 995
(3) 997 (4) 1004

6. A function f is defined as $f(x) = \log\left(\frac{1+x}{1-x}\right)$, then the value of $f\left(\frac{x_1 + x_2}{1 + x_1 x_2}\right)$ is same as

$(1) f(x_1) f(x_2)$	$(2) \frac{f(x_1)}{f(x_2)}$
$(3) f(x_1) + f(x_2)$	$(4) \text{None of these}$
7. A pipe, P, can fill an empty tank in 12 minutes and another pipe, Q, can empty the same tank completely in 20 minutes. Pipe P closes automatically when the water level in the tank reaches $3/4^{\text{th}}$ of the height of the tank and simultaneously the pipe Q opens and operates until the water level falls to exactly $1/4^{\text{th}}$ of the height of the tank, after which Q closes and simultaneously P opens. If the pipe P is opened first and this process continues indefinitely, what portion of the tank is filled after exactly one hour? (assume that the tank is initially empty)

$(1) \frac{1}{4}$	$(2) \frac{2}{5}$
$(3) \frac{3}{5}$	$(4) \frac{3}{4}$
8. Auto fare in a certain city is Rs.2.40 for the first 1 km, Rs.2.00 per km for the next 4 km, and Rs.1.20 for each additional km thereafter. Find the fare in rupees for k km, if $k \geq 5$.

$(1) 2.4k + 1.2(2k - 3)$	$(2) 10.4 + 1.2(k - 5)$
$(3) 2.4 + 2(k - 3) + 1.2(k - 5)$	$(4) 10.4 + 1.2(k - 4)$
9. A, B, C, D and E are five students who took CAT2007. The following are the averages of their overall scores, taken three at a time: 119, 121, 124, 125, 123, 126, 127, 128, 129 and 132. What is the highest score among the scores of A, B, C, D and E?
(1) 138 (2) 141
(3) 140 (4) 135

10. At the farewell party of a certain class, having n students, each student of the class gave a gift to exactly k other students of the class. The number of students in the class who received at least one gift cannot be less than?
- k
 - $k + 1$
 - $n - k$
 - $n - 1$
11. Two equal circles, C_1 and C_2 , are drawn, touching each other externally. Another larger circle, C_3 , is drawn, enveloping both C_1 and C_2 , with the least possible radius, R . If two distinct small circles, C_4 and C_5 , of equal size, are now drawn such that each of them touches C_1 and C_2 externally and C_3 internally, then find the area of the region inside C_3 which is not common to any of C_1 , C_2 , C_4 or C_5 .
- $\frac{2}{9}\pi R^2$
 - $\frac{7}{18}\pi R^2$
 - $\frac{\pi R^2}{6}$
 - $\frac{5}{18}\pi R^2$
12. Let a , b , c and d be four positive integers, satisfying the equations $a + b = c + 2d + 1$, $a - b = c - 2d - 1$. If both c and d are odd, which of the following is true of the parities of a and b ?
- Both are even
 - Both are odd
 - a is odd and b is even.
 - a is even and b is odd

DIRECTIONS for questions 13 and 14: Answer the questions on the basis of the information given below.

Consider the following operators defined below.

- $x @ y$: gives the positive difference of x and y .
 $x \$ y$: gives the sum of the squares of x and y .
 $x \mathcal{L} y$: gives the positive difference of the squares of x and y .
 $x \& y$: gives the product of x and y .

Also $x, y \in \mathbb{R}$, and $x \neq y$. The other standard algebraic operations are unchanged.

DIRECTIONS for questions 19 and 20: Answer the questions on the basis of the information given below.

In Fig. 1 below, A and B are the centres of the two equal circles and in Fig. 2, PQRS is a square containing the two quadrants centered at P and Q, where $PQ = AB$. In Fig. 1, the ratio of the area of the shaded region and the area of each circle is k and in Fig. 2, the ratio of the area of the shaded region and the area of the square PQRS is p . The ratio of the combined area of the closed regions PST and QRT in Fig. 2 and the area of each of the circles in Fig. 1 is m .

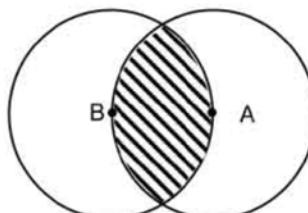


Fig. 1

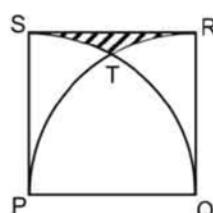


Fig. 2

19. Find p in terms of k .

- $1 - \frac{\pi}{2} + \frac{k\pi}{2}$
- $1 - \frac{\pi}{2} + k\pi$
- $1 - \pi + \frac{k\pi}{2}$
- $1 - \pi + k\pi$

13. Given that $x @ y = x - y$, then find $(x \$ y) + (x \mathcal{L} y)$.

- $2x^2$
- $2y^2$
- $2(x^2 + y^2)$
- Cannot be determined

14. The expression $[(x \mathcal{L} y) + (x @ y)]^2 - 2(x \& y)$ will be

- equal to
(1) $x \mathcal{L} y$
(2) $x \$ y$
(3) $(x \mathcal{L} y)(x @ y)$
(4) Cannot be determined

DIRECTIONS for questions 15 to 18: Answer the questions independently of each other.

15. There is a 5×5 square grid, with each of its cells having a distinct identity. In how many ways can three identical coins be placed in the grid (with at most one coin in each cell) such that no two coins are placed either in the same row or in the same column?

- (1) 1200 (2) 1800 (3) 600 (4) 900

16. If $x = \frac{10^{18} - 8^{18}}{10^{13} - 8^{13}}$, then which of the following is true?

- (1) $10^3 < x < 10^4$ (2) $10^4 < x < 8^5$
(3) $8^5 < x < 10^5$ (4) $x > 10^5$

17. What is the remainder when 3^{1000} is divided by 91?

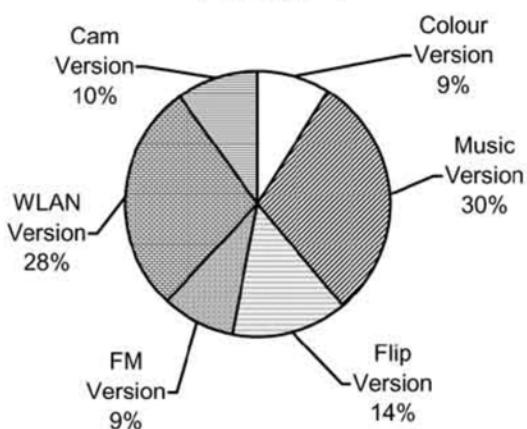
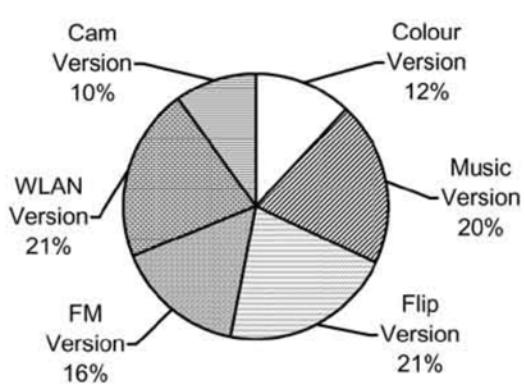
- (1) 1 (2) 11 (3) 81 (4) 27

18. In a Chemistry lab, there are three solutions of an acid, A, B and C, of concentrations 45%, 50% and $c\%$ respectively. If 100 ml of A when mixed with V ml of C, produces a solution of 60% concentration and 100 ml of B when mixed with V ml of C produces a solution of 62% concentration, find V.

- (1) 100 (2) 120 (3) 80 (4) 150

DIRECTIONS for questions 21 to 23: Answer the questions on the basis of the information given below.

India mobiles Ltd., which launched its products in 2007, has exactly one model of mobile phone in each of the six versions, i.e., Music version, Flip version, FM version, WLAN version, Cam version and Colour version. Pie chart-1 gives the percentage share of each of the versions in the total sales value and Pie chart-2 gives the percentage share of each of the versions in the total sales volume.

Pie Chart - 1**Pie Chart - 2**

The models of mobile phones in these six versions are A912i, K52, R31b, M2080, V2n and Z620, not necessarily in that order.

It is also known that:

- The selling price of R31b is twice of that of M2080.
 - The selling price of V2n and that of Z620 are in the ratio 2 : 3.
 - The selling price of K52 is more than that of M2080.
- 21.** If the selling price of Z620 is 25% less than that of K52, what is the ratio of the selling price of M2080 to that of A912i?
- (1) 2 : 1 (2) 4 : 3
 (3) 3 : 2 (4) 8 : 5

- 22.** If the selling price of V2n is Rs.1200 more than that of K52, what is the selling price (in Rs.) of A912i?

- (1) 1350 (2) 1800
 (3) 2700 (4) 2400

- 23.** If the sales value is the highest for R31b with its selling price as Rs.18000, what is the difference between the selling prices of K52 and Z620?

- (1) Rs.3600 (2) Rs.4000
 (3) Rs.4500 (4) Rs.4800

DIRECTIONS for questions 24 to 26: Answer the questions on the basis of the information given below.**Production (in metres) of 'Madras Textiles' over five years (1998 through 2002) for three types of textiles**

Year	Type 1	Type 2	Type 3	Total
1998	34,56,700	2,34,900	1,40,000	38,31,600
1999	45,98,700	7,65,740	19,000	53,83,440
2000	34,45,660	4,56,700	28,000	39,30,360
2001	65,78,900	3,45,780	35,900	69,60,580
2002	67,54,300	9,87,400	27,000	77,68,700

Profit per metre (in rupees) produced for each type

Year	Type 1	Type 2	Type 3
1998	0.1	0.3	0.75
1999	0.05	0.5	0.25
2000	0.15	0.9	0.5
2001	0.1	0.5	1
2002	0.2	1	1.5

- 24.** In which year did Madras Textiles experience the highest total profit?
 (1) 1998 (2) 2002
 (3) 2001 (4) 1999

25. In how many years was the profit from Type 1 greater than that from each of Type 2 and Type 3?
 (1) 3 (2) 2
 (3) 1 (4) None of the above

26. What is the approximate percentage increase in the total profit of the company from the year 2001 to the year 2002?
 (1) 175 % (2) 125 % (3) 85 % (4) 40%

DIRECTIONS for questions 27 to 30: Answer the questions on the basis of the information given below.

The Central Road Research Institute carries out cost studies for road users on a periodic basis. The following tables and graph represent the survey results for the year 2007. The survey studied the cost savings involved, for different categories of vehicles, in shifting from a previously existing 'two-lane bad road' to a new 'four-lane good road' in Mehrauli, Uttar Pradesh.

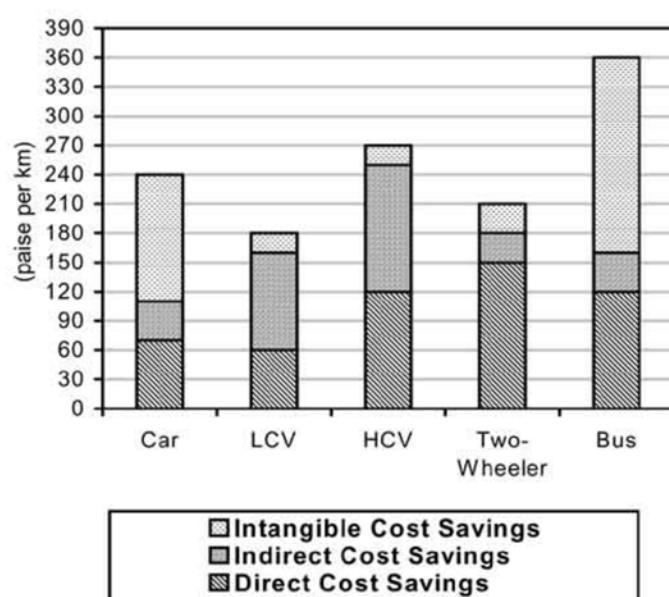
This new four-lane good road is 100 km long and has no other routes connecting into it. In other words a vehicle that enters into this road from one end can exit only from the other end of the road (i.e., after 100 km). The same was the case for the previously existing two-lane bad road. However, after moving to the new four-lane good road, the government set up Toll-gates, to collect toll from the road users every time they use the road. Toll is charged according to the category of the vehicle.

Note : Total Cost Savings are the cost savings due to using the new four-lane good road over the previously existing two-lane bad road.

Distribution of Total Cost Savings

Type of Savings		
A – Direct Cost Savings	B – Indirect Cost Savings	C – Intangible Cost Savings
Fuel : 60%	Spares : 50%	Time : 60%
Tyres : 15%	Maintenance : 50%	Commodity : 40%
Oil : 25%	–	–

Total Cost Savings
(in paisa per km for different categories of vehicles)



In the above table, for example, of the total direct cost savings, the money saved due to the decreased consumption of fuel forms 60%.

Toll Charged as a percentage of the Total Cost Savings for different categories of vehicles

Category of vehicle	Percentage
Car	50
LCV	80
HCV	90
Two – Wheeler	30
Bus	45

$$\text{Net Cost Savings} = \text{Total Cost Savings} - \text{Toll Charged}$$

27. If one uses a two-wheeler on the new road, then what are the savings on fuel for a to and fro journey?
 (1) Rs.126 (2) Rs.252
 (3) Rs.180 (4) Rs.90
28. The users of which of the following categories of vehicles will have the highest net cost savings by using the new road?
 (1) Car (2) Two-Wheeler
 (3) HCV (4) Bus

- 29.** What is the difference in the sum of the Indirect and Intangible cost savings on using a HCV on the new road and on using a Bus on the new road?
- (1) 60 paise/km
 - (2) 75 paise/km
 - (3) 80 paise/km
 - (4) 90 paise/km

- 30.** Which of the following is the highest?
- (1) The cost savings on fuel for a one-way trip for a two-wheeler.
 - (2) The cost savings on time for a one-way trip for a bus.
 - (3) The cost savings on spares for a two-way trip for a HCV.
 - (4) The cost savings on fuel for a two-way trip for a HCV.

SECTION – II

Number of Questions = 30

DIRECTIONS for questions 1 to 3: The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

1. In the nearer term, biologists are hoping to glean insights into such mysteries as how woolly mammoths were adapted to their frigid world and what factors led to their demise. Miller notes that by studying the genomes of multiple mammoths from different time periods, researchers will be able to chart the decrease in the genetic diversity as the species died out.
 - (1) The downfall of the mammoths and other species may contain lessons for modern fauna in danger of disappearing, he says.
 - (2) Based on initial comparisons of mammoth and elephant DNA, he estimates that around 400,000 changes would produce an animal that looks a lot like a mammoth an exact replica would require several million.
 - (3) Armed with complete genomes for the mammoth and its closest living relative the Asian elephant, scientists may one day be able to bring the mammoth back from the beyond.
 - (4) Perhaps the greatest promise of ancient DNA is not raising the dead but preserving the living.
2. So far, the rising sea levels, dying corals and spreading algal blooms are only minor distractions for most people. A few more hurricanes like Katrina, a few dramatic floods in the coastal cities of the rich world, perhaps even the shutting down of a part of

the world's great conveyer belt of ocean currents, especially if it were the one that warms up Western Europe: any of these could catch the attention of the policy makers.

- (1) They will, however, continue to change and be changed as long as man continues to put so much carbon into the atmosphere.
- (2) They may be able to help avert some global warming by providing storage for CO₂ or by providing energy through wave or tidal power.
- (3) The remedies are not hard to grasp.
- (4) The trouble is that by then it may be too late.
3. When historians look back on Mr. Obama's presidency they may well judge him most on whether he managed to bring the emerging powers into the world order and unite them behind western values. By the time Mr. Obama leaves office, powers like China, India and Brazil will surely have taken larger roles in the world economy. At the moment none of them is in the G8 club, and only China has a spot on the UN Security Council.
 - (1) If expectations are too high for Mr. Obama in domestic policy, they are off the scale when it comes to the world abroad.
 - (2) That brings in the issue of America's allies.
 - (3) If America cannot find a way to bring China and India into the existing global power structure, they will start drifting away to form their own clubs.
 - (4) All of these can slow down any economic recovery.

DIRECTIONS for questions 4 to 6: Read the following passage and answer the questions that follow it.

China has officially become the world's second-biggest economy, overtaking Japan. In the West this has prompted concerns about China overtaking the United States sooner than previously thought. But stand back a little farther, apply a more Asian perspective, and China's longer-term contest is with that other recovering economic behemoth: India. These two Asian giants, which until 1800 used to make up half the world economy, are not, like Japan and Germany, mere nation states. In terms of size and population, each is a continent – and for all the glittering growth rates, a poor one.

This is uncharted territory that should be seen in terms of decades, not years. Demography is not destiny. Nor for that matter are long-range economic forecasts from investment banks.

Yet as the years roll forward, the chances are that it will increasingly come down once again to the two Asian giants facing each other over a disputed border. How China and India manage their own relationship will determine whether mistakes similar to those that scarred the 20th century disfigure this one.

China's military advances do unnerve neighbours and regional rivals. Recent weeks have seen China fall out with South Korea (as well as the West) over how to respond to the sinking in March, apparently by a North Korean torpedo, of a South Korean navy ship. And the Beijing regime has been at odds with South-East Asian countries over its greedy claim to almost all of the South China Sea.

India, too, is unnerved. Its humiliation at Chinese hands in a brief war nearly 50 years ago still rankles. A tradition of strategic mistrust of China is deeply ingrained. India sees China as working to undermine it at every level: by pre-empting it in securing supplies of the energy both must import; through manoeuvres to block a permanent seat for India

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on the United Nations Security Council; and, above all, through friendships with its smaller South Asian neighbours, notably Pakistan. India also notes that China, after decades of setting their border quarrels to one side in the interests of the broader relationship, has in recent years hardened its position on the disputes in Tibet and Kashmir that in 1962 led to war. This unease has pushed India strategically closer to America – most notably in a controversial deal on nuclear co-operation.

Autocrats in Beijing are contemptuous of India for its messy, indecisive democracy. But they must see it as a serious long-term rival—especially if it continues to tilt towards America. The prospect of renewed war between India and China is, for now, something that disturbs the sleep only of virulent nationalists in the Chinese press and retired colonels in Indian think-tanks. Optimists prefer to hail the \$60 billion in trade the two are expected to do with each other this year (230 times the total in 1990). But the 20th century taught the world that blatantly foreseeable conflicts of interest can become increasingly foreseeable wars with unforeseeably dreadful consequences. Relying on prosperity and more democracy in China to sort things out thus seems unwise. Two things need to be done.

First, the slow progress towards a border settlement needs to resume. That points to a second, deeper need, similar to the one that Europe took two world wars to come close to solving, emerging Asia's lack of serious institutions to bolster such deals. A regional forum run by the Association of South-East Asian Nations is rendered toothless by China's aversion to multilateral diplomacy. Like any bully, it prefers to pick off its antagonists one by one. It would be better if China and India – and Japan – could start building regional forums to channel their inevitable rivalries into collaboration and healthy competition.

4. India is suspicious of China's motives for all the following reasons EXCEPT:
 - (1) China does not actively support a permanent seat for India on the UN Security Council.
 - (2) India lost a forgetful war to China in the 1960s.
 - (3) China has extended its goodwill to Pakistan.
 - (4) China wants to stir up old issues related to Indo-Sino borders.

5. In the passage, the writer chiefly
 - (1) criticizes China's proclivity for aggression.
 - (2) condemns America's ulterior motives in its acknowledgement of China's new economic status.
 - (3) hopes that India and China would settle their differences.
 - (4) regrets China's unreasonable standpoint in its border disputes with India.

6. Which of the following statements can be inferred from the passage?
 - (a) China did not condemn the sinking of a South Korean navy ship.
 - (b) Prospects of renewed war between India and China are dim.
 - (c) China should show more enthusiasm in building regional cooperation with its trading partners.
 - (d) China underestimates India.

(1) Only a	(2) a and b
(3) a, b and c	(4) a, b, c and d

DIRECTIONS for question 7: The following question consists of five statements followed by options consisting of three statements put together in a specific order. Choose the option, which indicates a valid argument, that is, where the third statement is a conclusion drawn from the preceding two statements.

7. A. All those who wear white trousers and white shirts are Maths teachers.
B. No Maths teacher is a Logic teacher.
C. Ravi is wearing white trousers and white shirt.
D. Ravi is not a Logic teacher.
E. Ravi is a Maths teacher.
(1) CAD (2) ACE (3) DAC (4) ECA

DIRECTIONS for questions 8 to 10: In each of the following questions, the word at the top is used in four different ways, numbered 1 to 4. Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE.

8. Better

- (1) 'Hyderabad pearls' have gone one better than nature and have made pearls purer than the best quality natural pearls
- (2) He enjoys a tough fight and he usually gets the better of his rivals.
- (3) If you have a lot of luggage you would be better of taking a taxi.
- (4) His life was dedicated to better the lot of the downtrodden.

9. Lead

- (1) The police have got a new lead in the abduction case.
- (2) The killing of the most wanted terrorist makes the lead story in today's press.
- (3) His abhorrence of the upper caste may lead him to behave in a rude manner with some of his colleagues.
- (4) The ferocious dog in a lead could be controlled easily by his master.

10. Plot

- (1) We have to plot a survival strategy for our business.
- (2) The pilots were trying to plot the course of the voyage.
- (3) The congress government has lost a plot on the scams.
- (4) The rebels met to plot a coup.

DIRECTIONS for question 11: The question below is followed by two statements, A and B. Answer the question using the following instructions:

Mark 1 if the question can be answered by using statement A alone but not by using statement B alone.

- Mark 2 if the question can be answered by using statement B alone but not by using statement A alone.
- Mark 3 if the question can be answered by using either of the statements alone.
- Mark 4 if the question can be answered by using both the statements together but not by either of the statements alone.

11. In a class of 125 students, if 20 students failed in all the three subjects – Physics, Chemistry and Mathematics – then how many students passed in only Physics?
- 65 students passed in Mathematics and 105 students passed in Chemistry.
 - 65 students passed in Chemistry as well as Mathematics, 60 students passed in Physics as well as Chemistry.

DIRECTIONS for questions 12 to 15: Answer the questions on the basis of the information given below.

The Champions League football tournament had reached the quarterfinal stage and the eight teams left in the tournament were Manchester United (ManU), Chelsea (Che), Liverpool (Liv), Arsenal (Ars), Real Madrid (RM), Barcelona (Barca), AC Milan (AC) and Inter Milan (IM). Eight friends – Amol, Bala, Chandu, Deepak, Emma, Feroz, Govind and Hema – decided to make their own predictions as to the final positions of the eight teams, i.e., the stage to which each of the teams will advance before getting eliminated from (or winning) the tournament. The following table gives the predictions given by the eight friends about the winner of the tournament (W), the losing finalist (LF), the two losing Semi-finalists (SFs) and the four teams (QFs) which were eliminated at the Quarter finals stage.

Person	Predictions								
	W	LF	SFs		QFs				
Amol	Liv	RM	ManU	Ars	IM	AC	Che	Barca	
Bala	Che	AC	ManU	Barca	Ars	RM	IM	Liv	
Chandu	RM	IM	Liv	Ars	AC	ManU	Che	Barca	
Deepak	Che	AC	ManU	Liv	Ars	IM	RM	Barca	
Emma	Barca	Ars	ManU	Liv	AC	RM	IM	Che	
Feroz	Che	ManU	Barca	AC	RM	Ars	IM	Liv	
Govind	ManU	RM	AC	IM	Ars	Liv	Che	Barca	
Hema	ManU	Barca	Che	AC	RM	Liv	Ars	IM	

At the end of the tournament, it was found that no two persons correctly predicted the final positions of the same number of teams and only three persons correctly predicted the semifinalists.

12. Which team was the winner of the tournament?
 (1) Manchester United (2) Chelsea
 (3) Real Madrid (4) Barcelona
13. The person who got none of his predictions right was
 (1) Amol. (2) Chandu.
 (3) Emma. (4) Govind.
14. How many of the eight persons correctly predicted the stage at which AC Milan was eliminated?
 (1) 0 (2) 1 (3) 2 (4) 3
15. Who is the person who got all his predictions right?
 (1) Bala (2) Deepak
 (3) Feroz (4) Govind

DIRECTIONS for questions 16 to 18: Read the following passage and answer the questions that follow it.

When Jonathan Franzen published 'The Corrections' in 2001, he gained a measure of celebrity unusual for a literary novelist when he was invited to discuss his book on 'The Oprah Winfrey Show' – then was disinvited when he publicly expressed reservations about having a Winfrey logo stamped on his book's dust jacket.

The ensuing flap most likely drew more readers to Franzen's dysfunctional family epic, but earned him accusations of snobbery from plenty of detractors. He might win a few back with his new novel, 'Freedom,' which is superior to its predecessor and proves that Franzen has few living peers in crafting fiction that delves both widely and deeply into modern American life.

Franzen is highly perceptive about the foibles and vanities of regular people, and never afraid to make his characters unlikable. To some readers this might seem like outright disdain, but in the end, his unflinching view of humankind comes across as something almost like affection: for the way we stumble, fall and get back up as we try to overcome our bad habits and irresponsible impulses.

But 'Freedom' is far more than a character study. It is set squarely in the real world, all too rare in most current fiction; its characters argue about politics and watch sports and 'American Idol' on television; they eat in restaurants and go to movies. Franzen is interested in how the choices we make each day make us the people we are, and how the collective weight of those choices makes America the country it is – often, it seems, for the worse.

This is a book that's opinionated about many things, but it's refreshing to see a novelist who wants to engage the questions of our time in the tradition of 20th-century greats like John Steinbeck and Sinclair Lewis. Franzen's politics will read as left-wing to most in his scathing opinions about President George W Bush and the US in the post-September 11, 2001 years, but in truth, he levels his judgements at people of all stripes.

In 'Freedom,' liberals are just as likely to be bad parents as are conservatives; left-wingers just as prone to impotent rage as right-wingers. The sacred cows of the educated elite get skewered, as Franzen aims his satiric gaze at the insularity of public radio listeners, indie rock fans and urban bohemians. Patty's East Coast-based parents and siblings are the type of artsy Democrats whose faith in the superiority of New York City "was the foundation of her family's satisfaction with itself, the platform from which all else could be ridiculed, the collateral of adult sophistication that brought them the right to behave like children."

In 'The Corrections,' Franzen at times seemed too content to simply find new and entertaining ways to portray familial and personal dysfunction. In 'Freedom,' he is more concerned with exploring the choices that underlie it: Why are we so competitive with the people we care about most? Why are we so concerned with what others think of us? Is redemption possible for people who've made terrible mistakes with their lives?

16. All of the following are satirized by Franzen EXCEPT:

- (1) New Yorkers. (2) the educated elite.
- (3) the left wingers. (4) None of the above

17. We can infer from the passage that 'Freedom'

- (1) portrays personal tragedy.
- (2) traffics in weighty questions.
- (3) is a character study.
- (4) ends on a disdainful note.

18. We can infer from the passage that Steinbeck and Lewis engaged the reader with

- (1) conservative themes.
- (2) contemporary issues.
- (3) unanswered questions.
- (4) 21st century problems.

DIRECTIONS for questions 19 and 20: There are two blanks in each of the following sentences. From the pairs of words that follow them, choose the pair that fills the blanks most appropriately.

19. The stiff shaft of the quill provides rigidity where _____ is needed, yet it is supple towards its tip, where _____ is required for split-second aerial manoeuvring.

- (1) totipotency . . . plasticity
- (2) substrate . . . subvention
- (3) support . . . flexibility
- (4) corroboration . . . adaptability

20. Considering the continuous _____ of the vegetation in the Mediterranean lands during the last few thousand years, one might well believe that not much _____ today of the original wild-life of the region.

- (1) impecuniosity . . . reveals
- (2) impoverishment . . . remains
- (3) indigence . . . lingers
- (4) destruction . . . prevails

DIRECTIONS for questions 21 and 22: Each question below consists of a main statement followed by four numbered statements. From the numbered statements, select the one that logically follows the main statement.

21. The mountaineer will climb the mountain unless there is a storm or a heavy wind blows.

- (1) The mountaineer did not climb the mountain, means that there was a storm and a heavy wind blew.

(2) The mountaineer climbed the mountain, means that there was no storm and a heavy wind did not blow.

- (3) The mountaineer did not climb the mountain, means that there was a storm or a heavy wind blew.
- (4) None of the above.

22. Whenever Red is darker than Blue, Green is lighter than Pink or Yellow.

- (1) Green is lighter than Pink or Yellow; means Red is darker than Blue.
- (2) Green is not lighter than Pink but it is lighter than Yellow, means that Red is darker than Blue.
- (3) Red is darker than Blue but Green is not lighter than Yellow means that Green is lighter than Pink.
- (4) All the above.

DIRECTIONS for questions 23 to 25: The sentences given in each of the following questions when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. From among the four choices given below each question, choose the most logical order of sentences that constructs a coherent paragraph.

23. (a) Communication was the problem.

- (b) Sign language was sometimes helpful, sometimes not.

(c) Columbus once ordered his young sailors to dance to the rhythm of a drum in order to attract some Indians who were lying some way off the ship in a large canoe.

(d) Attempts to make friends were not always successful.

(e) The Indians thought it was a war dance, however, and began shooting arrows.

- (1) c d e b a (2) a c e d b
- (3) d c e a b (4) b c e d a

24. (a) The diprotodont marsupials have a pair of specialized incisors standing out from the other teeth in the front of their lower jaws and are mainly herbivores.

(b) In approaching the rich confusion of exotic names and animals, zoologists began by opening the mouth of their problem and looking at teeth.

(c) For the most part the meat eaters have retained a primitive five-digit condition in their feet and forepaws, while most of the plant eaters have developed a fusion of the 2nd and 3rd toes on each hind foot.

- (d) Australian marsupials have two basic kinds of dentition: the so-called polyprotodont marsupials have many small, sharp front teeth and are largely meat eaters.
- (e) The bandicoots, with feet like the plant eaters and teeth like the meat eaters, have the feeding habits of both.
- (1) a b c d e (2) b c a d e
 (3) d e a b c (4) b d a c e
- 25.** (a) The growing centralization of financial powers might well be an unintended consequence of the changing dynamics in public finance.
 (b) Despite the well laid down contours of fiscal federalism in India the space available to the
- (c) states has been shrinking in recent times.
 (d) Adjustments of an even greater magnitude would obviously be required when the goods and services tax (GST) is introduced.
 (e) For instance, a major reform of the indirect taxes, through the value added tax, required a careful reworking of the center state financial relations including the question of compensating the state for possible revenue loss.
 (f) The switchover to the GST is a bold move to increase the share of the states' tax revenue by bringing into their net the fast growing services segment.
 (g) (1) c d b a e (2) b a d c e
 (h) (3) a d b c e (4) e b a d c

DIRECTIONS for questions 26 to 28: Read the following passage and answer the questions that follow it.

Under the Hindu Marriage Act and the Special Marriage Act there are specific grounds on which divorce can be sought. These include adultery, cruelty, desertion, conversion to another religion, unsoundness of mind, virulent and incurable form of leprosy, venereal disease in a communicable form, renouncement of the world and not heard of as being alive for a period of seven years or more. Section 13-B of the Hindu Marriage Act and Section 28 of the Special Marriage Act also provide for divorce by mutual consent. Under this, both parties have to file a petition in court and are given six months after its admission and up to 18 months to change their minds. If neither party withdraws, the divorce is granted.

The government, and the Law Commission in its 217th report (March 2009), holds that the introduction of a provision of no-fault divorce, that is where neither party has to prove that the other committed an offence such as adultery, or cruelty or desertion to file for a divorce, will assist many couples who get caught in legal wrangles when their marriages have already broken down. Sometimes, even when they use the provision of mutual consent, one or the other party pulls out part way through the proceedings, leaving the other with no choice but to resort to a lengthy legal process to get a divorce. The government believes it is introducing this provision to bring such situations to an end.

But lawyers and women's groups, who have known first hand the problems of deserted women, or those who are victims of cruelty within their marriages, or have to live with adulterous husbands, say that such a provision will place a bigger burden on women. At present, a mutual consent divorce is the easiest and only possible way if both parties want to break up. Otherwise, one or the other has to prove a "fault". Women often do not take the first step, particularly those women who are not financially independent, as they cannot pay for the litigation and also fear that even if there is a divorce, the final settlement will not suffice for them to survive on their own. For instance, apart from maintenance, sometimes the court awards a lump sum if a woman is able to prove her husband falls under any of the categories listed for grounds for divorce. But if the woman has to leave her matrimonial home, she would not have the resources to get another house unless that was part of the final settlement. And the current law does not mandate a formula for a financial settlement that would take care of the woman's shelter needs.

In countries around the world, including the United States, where the grounds of "irretrievable breakdown of marriage" are part of the statute, there has been considerable debate over its introduction and it has been followed by clear and specific mandates on division of property. In some states in the US, everything is divided equally between the couple after a divorce on these grounds. In India, there is no such provision in the existing law or in the contemplated new addition.

What this will mean in real life is that an adulterous husband can file under this addition to the divorce law and even if he agrees to pay alimony, he is not bound by law to ensure that the woman has adequate resources to survive on her own. Also, in a society where being married grants women "respectability", a divorce means losing that status. There is no legal compensation for this and no sign that our society is likely to change its attitude toward divorced or unmarried women in a hurry. Hence, women will always hesitate before filing for divorce.

The bottom line is that provisions for divorce are not gender neutral in a society like ours where there is no level playing field for men and women. Therefore, before any such provision is introduced, there needs to be a much closer scrutiny of its impact on poor women without independent economic resources who constitute the majority in this country. You cannot bring in a law that would ease the way for a small minority without considering the impact on this majority.

This is not to say that women or men should be permanently tied into loveless or cruel marriages. Divorce is a way out of such situations and marriage is not sacrosanct, as some hold. But the provisions for divorce must be just. Of course, women who have a hard time proving that their husbands are cruel, or bigamous, could also use this provision to end their marriages. But such women are usually those with financial independence and the ability to negotiate a decent settlement. The majority of women would not dare use the provision for fear that they would be left with nothing. On the other hand, for their husbands, this would be a very handy piece of law to opt out of the marriage, and then go in for another.

26. Which of the following statements can be inferred from the passage?
- (a) Proving cruelty or adultery is always a formidable proposition in a divorce case.
 - (b) Women rarely take the first step for divorce lest they find themselves homeless.
 - (c) The women who opt for the new provision to end their marriages are an assertive minority.
 - (d) The new provision ensures a hassle-free way of getting a divorce without specific mandates on division of property.
- (1) Only a and d (2) Only c and d
(3) Only a and b (4) a, b, c and d
27. The writer approves of the "irretrievable breakdown of marriage" clause, provided that
- (1) the concerns of women's welfare groups are factored in.
 - (2) men don't use it to go in for another marriage.
 - (3) there are just provisions for women.
 - (4) women are not left in a limbo.
28. The 'mutual consent' divorce is the easiest provision but it is problematized because
- (1) one party can refuse to honor the contract.
 - (2) divorce is still relatively uncommon in India compared to many other countries.
 - (3) it makes divorce easier for men who want to check out of marriage.
 - (4) the divorce is rushed through without adequate thought.

DIRECTIONS for questions 29 and 30: Each question below is followed by two statements, I and II. Answer the question using the following instructions:

Mark 1 if the question can be answered by one of the statements alone but not by the other.

Mark 2 if the question can be answered by using either statement alone.

Mark 3 if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Mark 4 if the question cannot be answered even by using both the statements together.

29. Only if Shyam eats no more than three sweets, then Ram will eat no more than three sweets, and Seeta will eat at least three sweets. How many sweets did Shyam and Seeta together eat, given that everyone ate a different number of sweets and each of them ate at least one sweet?
- I. Seeta ate three sweets and Ram ate two sweets.
 - II. Ram ate one sweet and Seeta ate four sweets.
30. How many Tuesdays are there in the year?
- I. The year started with a Monday.
 - II. The year ended with a Saturday.