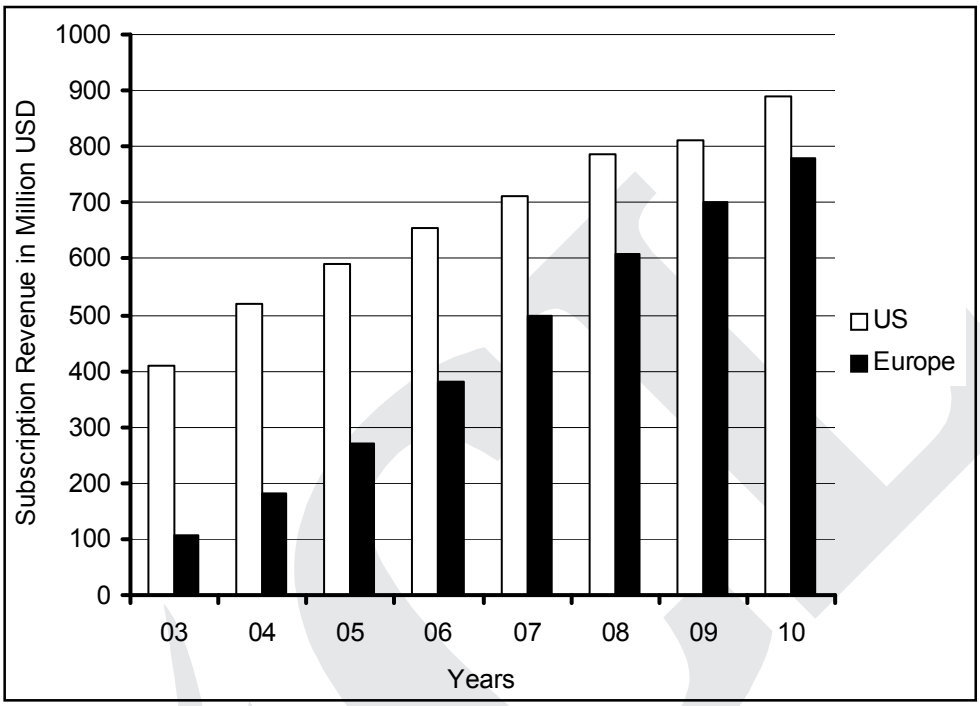
Directions for questions 1 to 4: Answer the following questions based on the information given below: **CAT 2008**

The bar chart below shows the revenue received in million US Dollars (USD), from subscribers to a particular Internet service. The data covers the period 2003 to 2007 for the United States (US) and Europe. The bar chart also shows the estimated revenues from subscription to this service for the period 2008 to 2010.



1. The difference between the estimated subscription revenue in Europe in 2008 and what it would have been if it were computed using the percentage growth rate of 2007 (over 2006), is closest to:
(1) 50 (2) 80 (3) 20 (4) 10 (5) 0

2. In 2003, sixty percent of subscribers in Europe were men. Given that women subscribers increase at the rate of 10 percent per annum and men at the rate of 5 percent per annum, what is the approximate percentage growth of subscribers between 2003 and 2010 in Europe? The subscription prices are volatile and may change each year.
(1) 62 (2) 15 (3) 78 (4) 84 (5) 50

3. Consider the annual percent change in the gap between subscription revenues in the US and Europe. What is the year in which the absolute value of this change is the highest?
(1) 03 - 04 (2) 05 - 06 (3) 06 - 07 (4) 08 - 09 (5) 09 - 10

4. While the subscription in Europe has been growing steadily towards that of the US, the growth rate in Europe seems to be declining. Which of the following is closest to the percent change in growth rate of 2007 (over 2006) relative to the growth rate of 2005 (over 2004)?
(1) 17 (2) 20 (3) 35 (4) 60 (5) 100

Directions for questions 5 to 8: Answer the following questions based on the information given below: **CAT 2007**

The following table shows the break-up of actual costs incurred by a company in last five years (year 2002 to year 2006) to produce a particular product:

	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006
Volume of production and sale (units)	1000	900	1100	1200	1200
Costs (Rs.)					
Material	50,000	45,100	55,200	59,900	60,000
Labour	20,000	18,000	22,100	24,150	24,000
Consumables	2,000	2,200	1,800	1,600	1,400
Rent of building	1,000	1,000	1,100	1,100	1,200
Rates and taxes	400	400	400	400	400
Repair and maintenance expenses	800	820	780	790	800
Operating cost of machines	30,000	27,000	33,500	36,020	36,000
Selling and marketing expenses	5,750	5,800	5,800	5,750	5,800

The production capacity of the company is 2000 units. The selling price for the year 2006 was Rs. 125 per unit. Some costs change almost in direct proportion to the change in volume of production, while others do not follow any obvious pattern of change with respect to the volume of production and hence are considered fixed. Using the information provided for the year 2006 as the basis for projecting the figures for the year 2007, answer the following questions:

5. What is the approximate cost per unit in rupees, if the company produces and sells 1400 units in the year 2007?
(1) 104 (2) 107 (3) 110 (4) 115 (5) 116

6. What is the minimum number of units that the company needs to produce and sell to avoid any loss?
(1) 313 (2) 350 (3) 384 (4) 747 (5) 928

7. If the company reduces the price by 5%, it can produce and sell as many units as it desires. How many units the company should produce to maximize its profit?
(1) 1400 (2) 1600 (3) 1800 (4) 1900 (5) 2000

8. Given that the company cannot sell more than 1700 units, and it will have to reduce the price by Rs.5 for all units, if it wants to sell more than 1400 units, what is the maximum profit, in rupees, that the company can earn?
(1) 25,400 (2) 24,400 (3) 31,400 (4) 32,900 (5) 32,000

Directions for questions 9 to 12: Answer the questions on the basis of the information given below: **CAT 2005**

The table below presents the revenue (in million rupees) of four firms in three states. These firms, Honest Ltd., Aggressive Ltd., Truthful Ltd. and Profitable Ltd. are disguised in the table as A, B, C and D, in no particular order.

States	Firm A	Firm B	Firm C	Firm D
UP	49	82	80	55
Bihar	69	72	70	65
MP	72	63	72	65

Further, it is known that:

- In the state of MP, Truthful Ltd. has the highest market share.
- Aggressive Ltd.'s aggregate revenue differs from Honest Ltd.'s by Rs. 5 million.

9. What can be said regarding the following two statements?
Statement 1: Profitable Ltd. has the lowest share in MP market.
Statement 2: Honest Ltd.'s total revenue is more than Profitable Ltd.
(1) If Statement 1 is true then Statement 2 is necessarily true.
(2) If Statement 1 is true then Statement 2 is necessarily false.
(3) Both Statement 1 and Statement 2 are true.
(4) Neither Statement 1 nor Statement 2 is true.

10. What can be said regarding the following two statements?
Statement 1: Aggressive Ltd.'s lowest revenues are from MP.
Statement 2: Honest Ltd.'s lowest revenues are from Bihar.
(1) If Statement 2 is true then Statement 1 is necessarily false.
(2) If Statement 1 is false then Statement 2 is necessarily true.
(3) If Statement 1 is true then Statement 2 is necessarily true.
(4) None of these.

11. What can be said regarding the following two statements?
Statement 1: Honest Ltd. has the highest share in the UP market.
Statement 2: Aggressive Ltd. has the highest share in the Bihar market.
(1) Both statements could be true.
(2) At least one of the statements must be true.
(3) At most one of the statements is true.
(4) None of these.

12. If Profitable Ltd.'s lowest revenue is from UP, then which of the following is true?
(1) Truthful Ltd.'s lowest revenues are from MP.
(2) Truthful Ltd.'s lowest revenues are from Bihar.
(3) Truthful Ltd.'s lowest revenues are from UP.
(4) No definite conclusion is possible.

Directions for questions 13 to 16: Answer questions on the basis of the information given below: **CAT 2006**

In a Class X Board examination, ten papers are distributed over five Groups - PCB, Mathematics, Social Science, Vernacular and English. Each of the ten papers is evaluated out of 100. The final score of a student is calculated in the following manner. First, the Group Scores are obtained by averaging marks in the papers within the Group. The final score is the simple average of the Group Scores. The data for the top ten students are presented below. (Dipan's score in English Paper II has been intentionally removed in the table.)

Name of the student	PCB Group			Mathematics Group	Social Science Group		Vernacular Group		English Group		Final Score
	Phy.	Chem.	Bio.		Hist.	Geo.	Paper I	Paper II	Paper I	Paper II	
Ayesha (G)	98	96	97	98	95	93	94	96	96	98	96.2
Ram (B)	97	99	95	97	95	96	94	94	96	98	96.1
Dipan (B)	98	98	98	95	96	95	96	94	96	??	96.0
Sagnik (B)	97	98	99	96	96	98	94	97	92	94	95.9
Sanjiv (B)	95	96	97	98	97	96	92	93	95	96	95.7
Shreya (G)	96	89	85	100	97	98	94	95	96	95	95.5
Joseph (B)	90	94	98	100	94	97	90	92	94	95	95
Agni (B)	96	99	96	99	95	96	82	93	92	93	94.3
Pritam (B)	98	98	95	98	83	95	90	93	94	94	93.9
Tirna (G)	96	98	97	99	85	94	92	91	87	96	93.7

Note: B or G against the name of a student respectively indicates whether the student is a boy or a girl.

13. How much did Dipan get in English Paper II?

(1) 94 (2) 96.5 (3) 97 (4) 98 (5) 99

14. Among the top ten students, how many boys scored at least 95 in at least one paper from each of the groups?

(1) 1 (2) 2 (3) 3 (4) 4 (5) 5

15. Had Joseph, Agni, Pritam and Tirna each obtained Group Score of 100 in the Social Science Group, then their standing in decreasing order of final score would be:

(1) Pritam, Joseph, Tirna, Agni
(2) Joseph, Tirna, Agni, Pritam
(3) Pritam, Agni, Tirna, Joseph
(4) Joseph, Tirna, Pritam, Agni
(5) Pritam, Tirna, Agni, Joseph

16. Students who obtained Group Scores of at least 95 in every group are eligible to apply for a prize. Among those who are eligible, the student obtaining the highest Group Score in Social Science Group is awarded this prize. The prize was awarded to:

(1) Shreya (2) Ram (3) Ayesha (4) Dipan (5) No one from the top ten

Directions for questions 17 to 20: Answer the following questions based on the information given below:

A vending machine, having five switches viz. 1, 2, 3, 4 and 5, when operated, dispenses Coca-cola, 7-up, Mirinda, Limca and Pepsi depending upon which switch is turned on. The machine is such that each switch dispenses two different drinks and each drink is dispensed by two different switches. If two or more switches are turned on, the common drink, if any, nullifies each other and will not come out at all. To get the drink that one wants, he/she has to turn on the right combination of switches, put in the money and press the delivery button.

Following information is also given:
Turning on switches:

I. 1 and 3, we get 7-up and Mirinda.
II. 2, 4 and 5, we get 7-up and Mirinda.
III. 1 and 2, we get Coca-cola and Pepsi.
IV. 1 and 4, we get Limca, Coca-cola, Mirinda and Pepsi.
V. 3, 4 and 5, we get Coca-cola and Pepsi.
VI. 2, 3 and 5, we get Limca, Coca-cola, Mirinda and Pepsi.
VII. Switches 1, 2, 3, 4 and 5 do not supply 7-up, Limca, Coca-cola, Mirinda and Pepsi respectively.

17. One of the drinks which is dispensed by turning on switch 1 is
(1) Limca (2) Coca-cola (3) Mirinda (4) 7-up

18. 7-up is one of the drinks that is dispensed by turning on switch
(1) switch 1 (2) switch 2 (3) switch 3 (4) switch 4

19. One of the drinks which is dispensed by turning on switch 2 is
(1) 7-up (2) Mirinda (3) Limca (4) Pepsi

20. What drinks are dispensed by turning on switches 2 and 3?
(1) Mirinda, Limca and 7-up (2) Pepsi, Limca and 7-up
(3) Coca-cola and Mirinda (4) Coca-cola, Mirinda, Pepsi and 7-up

Directions for questions 21 to 24: Answer the questions on the basis of the information given below.

The cells in the following grid are to be filled with distinct integers from among 1 to 16. Numbers in some of the cells are already filled as shown below.

Row–1			3	
Row–2	14			
Row–3		6		12
Row–4				7
	Column 1	Column 2	Column 3	Column 4

The remaining cells are to be filled subject to the following conditions:

I. No cell in the first or fourth row contains an even number.
II. No cell in the first or fourth column contains a multiple of 5.
III. The sum of the numbers in cells along one of the diagonals is 18.
IV. No cell in the third column contains a number that is the square or cube of an integer.
V. The sum of the numbers in the cells of the column in which one of the cells contains 10, is not less than sum of the numbers in the cells of the column in which one of the cells contains 1.
VI. Not more than one cell along any diagonal contains a number that is the square of an integer.
VII. The sum of the numbers in the cells of the first row is equal to 30.

21. The numbers in the cells of the first row, excluding the cell whose number is given, are
(1) 5, 9, 13 (2) 1, 15, 11 (3) 11, 15, 9 (4) 5, 13, 1

22. In which column maximum number of perfect squares are present?

23. The numbers in the cells of the 3rd row, excluding the cells whose number is given, are
(1) 2, 8 (2) 4, 2 (3) 2, 16 (4) 4, 10

24. Find the sum of the numbers in the cells of the second column.

Directions for questions 25 to 28: Answer the following questions based on the information given below: **CAT 2005**

In the table below is the listing of players, seeded from highest (#1) to lowest (#32), who are due to play in an Association of Tennis Players (ATP) tournament for women. This tournament has four knockout rounds before the final, i.e., first round, second round, quarterfinals, and semi-finals. In the first round, the highest seeded player plays the lowest seeded player (seed #32) which is designated match No. 1 of first round; the 2nd seeded player plays the 31st seeded player which is designated match No. 2 of the first round, and so on. Thus, for instance, match No. 16 of first round is to be played between 16th seeded player and the 17th seeded player. In the second round, the winner of match No. 1 of first round plays the winner of match No. 16 of first round and is designated match No. 1 of second round. Similarly, the winner of match No. 2 of first round plays the winner of match No. 15 of first round, and is designated match No. 2 of second round. Thus, for instance, match No. 8 of the second round is to be played between the winner of match No. 8 of first round and the winner of match No. 9 of first round. The same pattern is followed for later rounds as well.

Seed#	Name of Player	Seed#	Name of Player	Seed#	Name of Player
1	Maria Sharapova	12	Mary Pierce	23	Silvia Farina Elia
2	Lindsay Davenport	13	Anastasia Myskina	24	Tatiana Golovin
3	Amelie Mauresmo	14	Alicia Molik	25	Shinobu Asagoe
4	Kim Clijsters	15	Nathalie Dechy	26	Francesca Schiavone
5	Svetlana Kuznetsova	16	Elena Bovina	27	Nicole Vaidisova
6	Elena Dementieva	17	Jelena Jankovic	28	Gisela Dulko
7	Justine Henin	18	Ana Ivanovic	29	Flavia Pennetta
8	Serena Williams	19	Vera Zvonareva	30	Anna Chakvetadze
9	Nadia Petrova	20	Elena Likhovtseva	31	Al Sugiyama
10	Venus Williams	21	Daniela Hantuchova	32	Anna-lena Groenefeld
11	Patty Schnyder	22	Dinara Safina		

25. If there are no upsets (a lower seeded player beating a higher seeded player) in the first round, and only match Nos. 6, 7, and 8 of the second round result in upsets, then who would meet Lindsay Davenport in quarter finals, in case Davenport reaches quarter finals?
(1) Justine Henin (2) Nadia Petrova (3) Patty Schnyder (4) Venus Williams

26. If Elena Dementieva and Serena Williams lose in the second round, while Justine Henin and Nadia Petrova make it to the semi-finals, then who would play Maria Sharapova in the quarterfinals, in the event Sharapova reaches quarterfinals?
(1) Dinara Safina (2) Justine Henin (3) Nadia Petrova (4) Patty Schnyder

27. If, in the first round, all even numbered matches (and none of the odd numbered ones) result in upsets, and there are no upsets in the second round, then who could be the lowest seeded player facing Maria Sharapova in semi-finals?
(1) Anastasia Myskina (2) Flavia Pennetta (3) Nadia Petrova (4) Svetlana Kuznetsova

28. If the top eight seeds make it to the quarterfinals, then who, amongst the players listed below, would definitely not play against Maria Sharapova in the final, in case Sharapova reaches the final?
(1) Amelie Mauresmo (2) Elena Dementieva (3) Kim Clijsters (4) Lindsay Davenport

Directions for questions 29 to 32: Answer the following questions based on the information given below: **CAT 2004**

Prof. Singh has been tracking the number of visitors to his homepage. His service provider has provided him with the following data on the country of origin of the visitors and the university they belong to:

Number of visitors

	DAY		
COUNTRY	**1**	**2**	**3**
Canada	2	0	0
Netherlands	1	1	0
India	1	2	0
UK	2	0	2
USA	1	0	1

Number of visitors

	DAY		
UNIVERSITY	**1**	**2**	**3**
University 1	1	0	0
University 2	2	0	0
University 3	0	1	0
University 4	0	0	2
University 5	1	0	0
University 6	1	0	1
University 7	2	0	0
University 8	0	2	0

29. To which country does University 5 belong?
(1) India or Netherlands but not USA (2) India or USA but not Netherlands
(3) Netherlands or USA but not India (4) India or USA but not UK

30. University 1 can belong to

(1) UK (2) Canada (3) Netherlands (4) USA

31. Which among the listed countries can possibly host three of the eight listed universities?

(1) None (2) Only UK (3) Only India (4) Both India and UK

32. Visitors from how many universities from UK visited Prof. Singh's homepage in the three days?

(1) 1 (2) 2 (3) 3 (4) 4