2007 MBA – DATA ANALYSIS AND REASONING MODEL QUESTION PAPER

TIME   :   3 HOUR

DATA INTERPRETATION AND REASONING PAPER

Directions for questions 1 to 4: Table A shows the number of hits scored by leading male actors of the Bollywood film industry in the past 5 years. Table B gives data on who were leading ladies in of each of these hit films. While the four established actresses data is given separately, hits among these films of all other heroines are clubbed under the head "Others".

Table A Year

Actors	2000	2001	2002	2003	2004
SRK	1	0	2	1	1
VO	1	2	0	0	1
AK	0	0	1	1	0
HR	0	1	1	0	1
SK	1	0	1	0	1

Table B Year

Actresses	2000	2001	2002	2003	2004
AR	2	0	1	0	1
RM	1	1	0	1	0
PZ	0	1	1	1	0
MD	0	1	0	0	1
Others	0	0	3	0	2

Note:
¾ AR and SK have vowed never to work together in a film. Also PZ has not yet worked with VO.
¾ Among the four established actress, AK only works with RM.
¾ All of SRK's hits in the past 5 years have been with only two actresses.
¾ VO only works with established actresses.

1. In 2002, SRK's two hits have been with
1] AR & PZ 2] AR & others 3] PZ & others 4] others only

2. MD's two hits in the past 5 years have been with
1] VO and HR 2] VO only 3] VO and SRK 4] VO and HR

3. HR's's hits have been with
1] PM & AR 2] RM & PZ 3] others & PZ 4] others & RM

4. Which actor had the highest number of hits with "other" actresses?
1] AK 2] HR 3] HR & SK 4] None of these.

DIRECTIONS for questions 5 to 7: Refer to the data below.

Vibha has a choice of the following fruits for dinner - oranges, mangoes, bananas, pineapple, peaches, apples, guavas, and sweet lime. Given below is some additional information:
• Oranges and sweet lime are citrous fruits.

• Vibha has four fruits for dinner on any given day.
• Vibha does not have citrous fruits along with mangoes.
• Vibha eats peaches only if she eats sweet lime.
• Vibha has at least one of the three fruits - bananas, guavas, apples - everyday.
• Only one unit of any fruit can be eaten.

5. If Vibha eats peaches, which of the following fruits can she not eat on the same day ?
1] Banana 2] Guava 3] Mango 4] Orange

6. Vibha eats sweet lime and guavas, then the number of possible combinations is
1] 10 2] 14 3] 20 4] 16

7. Vibha has mangoes, then the number of possible combinations is
1] 4 2] 6 3] 24 4] 10

DIRECTIONS for questions 8 to 11: In a race, participants are given scores from 1 to 10. 10 friends participated in a race and every one secured different scores. The following incomplete table gives the ratio of some of their scores. For eg. B has scored double of A; or A has scored half of B.

A B C D E F G H I J
A - 1 : 2 2 : 1
B 2 : 1 -
C 4 : 1 -
D - 2 : 1
E -
F - 2 : 3
G - 1 : 3
H -
I 4.5 : 3 -
J -

8. What is the score of H?
1] 3 2] 7 3] 5 4] Indeterminate

9.. What is the score of I as a percentage of J's score?
1] 60% 2] 55.55% 3] 80% 4] 180%

10 Whose score cannot be found?
1] C 2] D
3] H 4] Everyone's score can be found.

11. Which of the following statements is true?
1] C scores more than A
2] Combined score of B and C is equal to A.
3] Combined score of I and G is equal to F.
4] D's score is the average of the score of all friends combined.

Directions for questions 12 to 14 The following table gives the cost data of select stock prices on
3rd December 2003 in two markets, BSE of India and NQE of Kya Kya Island. Closing stock refers to the price at the close of trading hours and opening stock to the price at the beginning of the day. The currency of Kya – kya is # and it is known that 1 # = Rs. 11.

3rd Dec, 2003 Closing Price Opening Price (in Rs.)

BSE (in Rs.) NQE
(in #)

BSE (in Rs.) NQE
(in #)

SIFY 247 22 232 21
INFY 115 10.5 105 9.5
WIPRO 65 6.5 60 5.5

TCS 444 40 450 40.5

12. Which share and on which market showed the highest percentage increase on 3rd Dec. ?
1] SIFY on BSE 2] INFY on NQE 3] WIPRO on NQE 4] TCS on NQE

13. Arbitrage means buying in one market and selling it simultaneously in another market. If Ghosh Babu were to buy a share at the opening price on one exchange and be able to sell it at the opening price on the other exchange, then on which share does he make maximum percentage profit ?
1] SIFY 2] INFY 3] WIPRO 4] TCS

14. In a M&A deal, SIFY is purchased by its parent company SATYAM which purchases 15% of SIFY's equity shares. Total SIFY's equity shares is 1 million. How much does SATYAM pay (in Rs.) for the stake if 50% of its purchases were on the BSE's opening price and the balance on BSE's closing price?
1] 36 million 2] 3.5 million 3] 363 million 4] 217 million

Direction for questions 15 to 22: A question is followed by two statements A and B. Mark [1] if statement A alone is sufficient to answer the question.
Mark [2] if statement B alone is sufficient to answer the question.
Mark [3] if statement A and B are together required to answer the question.
Mark [4] if both statements A and B together are also not sufficient to answer the question.

15. Is n odd ?
A. an – bn is divisible by a – b
B. an + bn is not divisible by a + b

16. If x and y are positive integers greater than two then what is the remainder when x356 is divided by y ?
A. x = 6
B. y = x – 1

17. What is the average weight of the class?
A. The ratio of the average weight of all the boys and girls is 3:2
B. The number of boys and girls in the class are 40 and 60 respectively

18. If x, y, z are positive integers, then is $5x + 6y + 7z$ divisible by 5? A. 5x + 3z is divisible by 5
B. y + 2z is divisible by 10.

19. Is the price of a pen an odd number?
A. The price of three pens, four pencils and six sharpeners is an even number. B. The price of a sharpener is same as the price of a pencil.

20. If a > x what is the value of x ? A. ax = xa
B. a ? x

21. Find the value of $x^2 + y^2 + xy$ where x and y are real numbers
A. x and y are integers. B. $(x – 2)^2 + (y + 3)^2 = 0$.

22. If a, b are the integers, is b divisible by 7 ? A. b – 3 = 3a
B. a – 6 is divisible by 7

Directions for questions 23 to 26: The following graph shows the growth of 2 computer viruses on the first 5 days of their existence. On day 0, one computer is infected by each of the virus. The values indicate how many computers are infected by each infected computer, on that day. It is important to note that the virus is detected in exactly 2 days, and is

deleted. Hence computers cannot infect further computers beyond 2 days. For e.g. If 1 computer was infected by NIMDA on day 0, then on day 1, five more computers will be infected, and on day 2, the first computer and the 5 computers infected the previous day will each infect 20 computers, hence 120 more computers will be infected. On day 3, the first infected computer is repaired, and only the others will infect further computers.

Computers infected by 1 infected coputer

50

40

30

20

10

0
Day 0 Day 1 Day 2 Day 3 Day 4 Day 5

NIMDA LOVEBUG

23. On which day does NIMDA affect the maximum number of new computers ?
1] day 4 2] day 5
3] both day 4 and day 5 4] Indeterminate

24. On which day do new computers affected by NIMDA first exceed those affected by LOVEBUG ?
1] day 2 2] day 3 3] day 4 4] day 5

25. What is the total number of computers affected by NIMDA at the end of day 5 ?
1] 120000 2] 123106 3] 4800000 4] 6342000

26. Total new computers affected by LOVEBUG from day 2 to day 3 is
1] 4710 2] 4725 3] 5340 4] 5025

Directions for questions 27 to 31 : The following table gives the details of entertainment equipment desired by five different families for their homes.

Family Music System TV DVD player
Sharmas Kenwood or Sony Sony Sony
Biyanis Kenwood or Pioneer Sony or Panasonic Panasonic or Sony

Chaterjees Pioneer or Sony Panasonic Panasonic or Sony

Dutts Pioneer or Panasonic Panasonic or Kenwood Sony or Kenwood

Kamaths Panasonic Panasonic or Kenwood Kenwood or Panasonic

The following table gives the price range of each of the entertainment equipments.

Equipment	Minimum Price	Maximum Price	Equipment	Minimum Price	Maximum Price
Sony			**Pioneer**		
Music System	8000	18000	Music System	9000	25000
TV	7500	22500	TV	12500	21500
DVD player	12000	27000	DVD player	12000	18000
Kenwood			**Panasonic**		
Music System	12000	35000	Music System	14000	30000
TV	9000	18000	TV	12000	12000
DVD player	17500	32500	DVD player	7500	32500

27. What is the difference between the most expensive entertainment equipments possible for the house of Kamaths and the least expensive entertainment equipments possible for the Biyanis ?
1] 56500 2] 32500 3] 62500 4] None of these

28. Which equipment has the least range of items within that category measured as maximum price of the equipment across all brands as a percentage of least price of that equipment across all brands?
1] Music System 2] TV 3] DVD player 4] Both 2 and 3

29. If the Chaterjees decide to give first preference to Sony products and get a 10% discount, and choose Panasonic products where Sony is not desirable, then what would be the bill for the three items if they opt for the most expensive equipment in each class ?
1] 53500 2] 52500 3] 47500 4] None of these

30. The Kamaths settle for all the least expensive products available according to their brand preferences and the Sharmas for the most expensive Sony products for all 3 products. What is the approximate savings in money spent on the three products for the Kamaths ?
1] 55% 2] 33.33% 3] 50% 4] 66.66%

31. If all homes are to be fitted with the best possible entertainment equipments that they can be fitted with based on the owners brand preferences, then on which house is the expenditure the highest ?
1] Biyanis 2] Chaterjees 3] Kamaths 4] Dutts

DIRECTIONS for questions 32 to 36: Refer to the data below.

Five football teams India, Pak, Canada, Korea and Germany are all going to play each other once. After some of the

matches have been played, a table giving some details of the matches played, won, lost, etc. looked like these

TEAM PLAYED WON LOST DRAWN GOAL SCORED GOAL AGAINST

India 1 0 1 0 3 4
Pak 0 6 9
Canada 3 1 4 2
Korea 1 1 0 0 2 1
Germany 1 1 3 2

32. How many games did Pak play ?
1] 1 2] 2 3] 3 4] Indeterminate

33. Against which team did Canada not play yet ?
1] India 2] Pak 3] Korea 4] Germany

34. How many matches did Canada win so far ?
1] 0 2] 1 3] 2 4] Indeterminate

35. What is the score in the Canada Vs. Germany match ?
1] 2-1 2] 1-2
3] 0-0 4] The match did not take place

36. What was the score in the India Vs. Germany match ?
1] 2-2 2] 0-2
3] 3-1 4] The match did not take place

ANSWERS

1-1
2-2
3-3
4-3
5-3
6-1
7-1
8-2
9-4
10-4
11-1
12-3
13-4
14-1
15-2
16-2
17-4
18-2
19-1
20-4
21-2
22-3
23-2
24-3
25-4
26-4

27-1
28-2
29-2
30-1
31-1
32-3
33-1
34-2
35-3
36-4