**ROHRA’S ACADEMY**

**DATA SUFFICIENCY**

**Directions for questions 1 to 25:** Each item is followed by two

statements, A and B. Answer each question using the following instructions.

Choose (a) if the question can be answered by one of the statements alone and not by the other.

Choose (b) if the question can be answered by using either statement alone.

Choose (c) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Choose (d) if the question cannot be answered even by using both statements together.

1. Two friends, Ram and Gopal, bought apples from a wholesale dealer. How many apples did they buy?

A. Ram bought one-half the number of apples that Gopal bought.

B. The wholesale dealer had a stock of 500 apples.

2. Is country X’s GDP higher than country Y’s GDP?

A. GDPs of the countries X and Y have grown over the past five years at compounded annual rate of 5% and 6% respectively.

B. Five years ago, GDP of country X was higher than that of country Y.

3. What is the value of X?

A. X and Y are unequal even integers, less than 10, and X/Y is an odd integer.

B. X and Y are even integers, each less than 10, and product of X and Y is 12.

4. On a given day a boat ferried 1500 passengers across the river in twelve hours. How many round trips did it make?

A. The boat can carry two hundred passengers at any time.

B. It takes 40 minutes each way and 20 minutes of waiting time at each terminal.

5. What will be the time for downloading software?

A. Transfer rate if 6 Kilobytes per second.

B. The size of the software is 4.5 megabytes.

6. A square is inscribed in a circle. What is the difference between the area of the circle and that of the square?

A. The diameter of the circle is 25/2 cm.

B. The side of the square is 25 cm.

7. What are the values of m and n?

A. n is an even integer, m is an odd integer, and m is greater than n.

B. Product of m and n is 30.

8. The average weight of students in a class is 50 kg. What is the number of students in the class?  
A. The heaviest and the lightest members of the class weigh 60 kg and 40 kg respectively.  
B. Exclusion of the heaviest and the lightest members from the class does not change the average weight of the students.  
  
9. A small storage tank is spherical in shape. What is the storage volume of the tank?  
A. The wall thickness of the tank is 1 cm.  
B. When the empty spherical tank is immersed in a large tank filled with water, 20 litres of water overflow from the large tank.  
  
10. Mr. X starts walking northwards along the boundary of a field, from point A on the boundary, and after walking for 150 metres reaches B, and then walks westwards, again along the boundary, for another 100 metres when he reaches C. What is the maximum distance between any pair of points on the boundary of the field?  
A. The field is rectangular in shape.  
B. The field is a polygon, with C as one of its vertices and A the mid point of a side.  
  
11. A line graph on a graph sheet shows the revenue for each year from 1990 through 1998 by points and joins the successive points by straight line segments. The point for revenue of 1990 is labelled A, that for 1991 as B, and that for 1992 as C. What is the ratio of growth in revenue between 91-92 and 90-91?  
A. The angle between AB and X-axis when measured with a protractor is 40 degrees, and the angle between CB and X-axis is 80 degrees.  
B. The scale of Y-axis is 1 cm = 1000 Rs.  
  
12. There is a circle with centre C at the origin and radius r cm. Two tangents are drawn from an external point D at a distance d cm from the centre. What are the angles between each tangent and the X-axis?  
A. The coordinates of D are given  
B. The X-axis bisects one of the tangents.

13. Find a pair of real numbers x and y that satisfy the following two equations simultaneously. It is known that the values of a, b, c, d, e and f are non-zero.  
  
ax + by = c  
dx + ey = f  
A. a = kd and b = ke, c = kf, k 0  
B. a = b = 1, d = e = 2, f 2c  
  
14. Three professors A, B and C are separately given three sets of numbers to add. They were expected to find the answers to 1+1, 1+1+2, and 1+1 respectively. Their respective answers were 3, 3, and 2. How many of the professors are mathematicians?  
A. A mathematician can never add two numbers correctly, but can always add three numbers correctly.  
B. When a mathematician makes a mistake in a sum, the error is + I or -1.  
  
15. How many among the four students A, B, C and D have passed the exam'?  
A. The following is a true statement: A and B passed the exam.  
B. The following is a false statement: At least one among C and D has passed the exam.  
  
16. What is the distance x between two cities A and B in integral number of Kms?  
A. x satisfies the equation log 2 x =   
B. x 10 Kms  
  
17. Mr. Mendel grew one hundred flowering plants from black seeds and white seeds, each seed giving rise to one plant. A plant gives flowers of only one colour. From a black seed comes a plant giving red or blue flowers. From a white seed comes a plant giving red or white flowers. How many black seeds were used by Mr. Mendel?  
A. The number of plants with white flowers was 10.  
B. The number of plants with red flowers was 70.

18. In a hockey match, the Indian team was behind by 2 goals with 5 minutes remaining. Did they win the match?

A. Deepak Thakur, the Indian striker, scored 3 goals in the last five minutes of the match.

B. Korea scored a total of 3 goals in the match.

19. Four students were added to a dance class. Would the teacher be able to divide her students evenly into a dance team (or teams) of 8?

A. If 12 students were added, the teacher could put everyone in teams of 8 without any leftovers.

B. The number of students in the class is currently not divisible by 8.

20. Is x = y?

A. (x + y)( 1 / x + 1 / y) = 4

B. (x – 50)2 = ( y – 50)2

21. A dress was initially listed at a price that would have given the store a profit of 20 percent of the wholesale cost. What was the wholesale cost of the dress?

A. After reducing the listed price by 10 percent, the dress sold for a net profit of 10 dollars.

B. The dress sold for 50 dollars.

22. Is 500 the average(arithmetic mean) score on the GMAT?

A. Half of the people who take the GMAT score above 500 and half of the people score below 500.

B. The highest GMAT score is 800 and the lowest score is 200.

23. Is |x - 2| < 1?

A. |x| > 1

B. |x - 1| < 2

24. People in a club either speak French or Russian or both. Find the number of people in a club who speak only French.

A. There are 300 people in the club and the number of people who speak both French and Russian is 196.

B. The number of people who speak only Russian is 58.

25. A sum of Rs.38,500 was divided among Jagdish, Punit and Girish. Who received the minimum amount?

A. Jagdish received 2/9 of what Punit and Girish together received.

B. Punit received 3/11 of what Jagdish and Girish together received.

Directions for questions 26 to 29 -

Mark (1) if the question can be answered by using the statement A alone but not by using the statement B alone.   
Mark (2) if the question can be answered by using the statement B alone but not by using the 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.   
Mark (5) if the question cannot be answered on the basis of the two statements.

**26.** In a particular school, sixty students were athletes. Ten among them were also among the top academic performers. How many top academic performers were in the school? A. Sixty per cent of the top academic performers were not athletes.   
B. All the top academic performers were not necessarily athletes.   
  
**27.** Five students Atul, Bala, Chetan, Dev and Ernesto were the only ones who participated in a quiz contest. They were ranked based on their scores in the contest. Dcv got a higher rank as compared to Ernesto, while Bala got a higher rank as compared to Chetan. Chetan's rank was lower than the median. Who among the five got the highest rank? A. Atul was the last rank holder.   
B. Bala was not among the top two rank holders.   
  
**28.** Thirty per cent of the employees of a call centre are males. Ten per cent of the female employees have an engineering background. What is the percentage of male employees with engineering background? A. Twenty five per cent of the employees have engineering background.   
B. Number of male employees having an engineering background is 20% more than the number of female employees having an engineering background.

**29.** In a football match, at the half-time, Mahindra and Mahindra Club was trailing by three goals. Did it win the match?

A. In the second-half Mahindra and Mahindra Club scored four goals.   
B. The opponent scored four goals in the match.

Directions for questions 30 to 33 -

Each question is followed by two statements A and B. Indicate your responses based on the following directives:  
Mark (1) if the question can be answered using A alone but not using B alone.  
Mark (2) if the question can be answered using B alone but not using A alone.   
Mark (3) if the question can be answered using A and B together, but not using either A or B alone.  
Mark (4) if the question cannot be answered even using A and B together.

**30.** The average weight of a class of 100 students is 45 kg. The class consists of two sections, I and II, each with 50 students. The average weight, WI of Section I is smaller than the average weight, WII of Section II. If the heaviest student, say Deepak, of Section II is moved to Section 1, and the lightest student, say Poonam, of Section I is moved to Section II, then the average weights of the two sections are switched, i.e., the average weight of Section I becomes WII and that of Section II becomes WI. What is the weight of Poonam? A: WII - WI = 1.0   
B: Moving Deepak from Section II to I (without any move from Ito II) makes the average weights of the two sections equal.  
  
**31.** ABC Corporation is required to maintain at least 400 Kilolitres of water at all times in its factory, in order to meet safety and regulatory requirements. ABC is considering the suitability of a spherical tank with uniform wall thickness for the purpose. The outer diameter of the tank is 10 meters. Is the tank capacity adequate to meet ABC requirements? A: The inner diameter of the tank is at least 8 meters.   
B: The tank weighs 30,000 kg when empty, and is made of a material with density of   
3 gm/cc.  
  
32**.** Consider integers x, y and z. What is the minimum possible value of x2+y2+z2 ? A: x+y+z =89   
B: Among x, y, z two are equal.   
  
**33.** Rahim plans to draw a square JKLM with a point 0 on the side JK but is not successful. Why is Rahim unable to draw the square?

A: The length of OM is twice that of OL.   
B. The length of OM is 4 cm.

**SYLLOGISM**

**DIRECTIONS for questions 1 to 10:** Each 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.  
Example:

1. All cigarettes are hazardous to health.
2. Brand X is a cigarette.
3. Brand X is hazardous to health.

ABC is a valid option, where statement C can be concluded from statements A and B.  
  
**1.** A. All software companies employ knowledge workers.  
B. Tara Tech employs knowledge workers.  
C. Tara Tech is a software company.  
D. Some software companies employ knowledge workers.  
E. Tara Tech employs only knowledge workers.  
  
1. ABC 2. ACB 3. CDB 4. ACE  
  
**2.** A. Traffic congestion increases carbon monoxide in the environment.  
B. Increase in carbon monoxide is hazardous to health.  
C. Traffic congestion is hazardous to health.  
D. Some traffic congestion does not cause increased carbon monoxide.  
E. Some traffic congestion is not hazardous to health.  
  
1. CBA 2. BDE 3. CDE 4. BAC  
  
**3.** A. Apples are not sweets.  
B. Some apples are sweet.  
C. All sweets are tasty.  
D. Some apples are not tasty.  
E. No apple is tasty.  
  
1. CEA 2. BDC 3. CBD 4. EAC

**4.** A. Some towns in India are polluted.  
B. All polluted towns should be destroyed.  
C. Town Meghana should be destroyed.  
D. Town Meghana is polluted.  
E. Some towns in India should be destroyed.  
  
1. BDE 2. BAE 3. ADE 4. CDB  
  
**5.** A. No patriot is a criminal.  
B. Bundledas is not a criminal.  
C. Bundledas is a patriot.  
D. Bogusdas is not a patriot.  
E. Bogusdas is a criminal.  
  
1. ACB 2. ABC 3. ADE 4. ABE  
  
**6.** A. Ant eaters like ants.  
B. Boys are ant eaters.  
C. Balaram is an ant eater.  
D. Balaram likes ants.  
E. Balaram may eat ants.  
  
1. DCA 2. ADC 3. ABE 4. ACD  
  
**7.** A. All actors are handsome.  
B. Some actors are popular.  
C. Ram is handsome.  
D. Ram is a popular actor.  
E. Some popular people are handsome.

1. ACD 2. ABE 3. DCA 4. EDC

**8.** A. Modern industry is technology driven.  
B. BTI is a modern industry.  
C. BTI is technology driven.  
D. BTI may be technology driven.  
E. Technology driven industry is modem.  
  
1. ABC 2. ABD 3. BCA 4. EBC

**9.** A. All Golmal islanders are blue coloured people.  
B. Some smart people are not blue coloured people.  
C. Some babies are blue coloured.  
D. Some babies are smart.  
E. Some smart people are not Golmal islanders.  
  
1. BCD 2. ABE 3. CBD 4. None of the above  
  
**10.** A. MBAs are in great demand.  
B. Ram and Sita are in great demand.  
C. Ram is in great demand.  
D. Sita is in great demand.  
E. Ram and Sita are MBAs.

1. ABE 2. ECD 3. AEB 4. EBA  
  
**DIRECTIONS for questions 11 to 14:** Each question has a main statement followed by four statements labelled A, B, C and D. Choose the ordered pair of statements where the first statement implies the second, and the two statements are logically consistent with the main statement.  
  
**11.** Either the orangutan is not angry, or he frowns upon the world.  
  
A. The orangutan frowns upon the world.  
B. The orangutan is not angry.  
C. The orangutan does not frown upon the world.  
D. The orangutan is angry.  
  
1. CB only 2. DA only  
3. AB only 4. CB and DA  
  
**12.** Either Ravana is a demon, or he is a hero.  
A. Ravana is a hero.  
B. Ravana is a demon.  
C. Ravana is not a demon.  
D. Ravana is not a hero.  
1. CD only 2. BA only

3. CD and BA 4. DB and CA

**13.** Whenever Rajeev uses the internet, he dreams about spiders.  
  
A. Rajeev did not dream about spiders.  
B. Rajeev used the internet.  
C. Rajeev dreamt about spiders.  
D. Rajeev did not use the internet.  
  
1. AD 2. DC 3. CB 4. DA  
  
**14.** If I talk to my professors, then I do not need to take a pill for headache.  
  
A. I talked to my professors.  
B. I did not need to take a pill for headache.  
C. I needed to take a pill for headache.  
D. I did not talk to my professors.  
  
1. AB only 2. DC only 3. CD only 4. AB and CD  
  
**DIRECTIONS for questions 15 to 24:** Each question has a set of four statements. Each statement has three segments. Choose the alternative where the third segment in the statement can be logically deduced using both the preceding two, but not just from one of them.  
  
**15.**   
A. No cowboys laugh. Some who laugh are sphinxes. Some sphinxes are not cowboys.  
B. All ghosts are fluorescent. Some ghosts do not sing. Some singers are not fluorescent.  
C. Cricketers indulge in swearing. Those who swear are hanged. Some who are hanged are not cricketers.  
D. Some crazy people are pianists. All crazy people are whistlers. Some whistlers are pianists.  
  
1. A and B  
2. C only  
3. A and D  
4. D only  
  
**16.**   
A. All good people are knights. All warriors are good people. All knights are warriors.  
B. No footballers are ministers. All footballers are tough. Some ministers are players.  
C. All pizzas are snacks. Some meals are pizzas. Some meals are snacks.  
D. Some barkers are musk-deer. All barkers are sloth bears. Some sloth bears are musk-deer.  
  
1. C and D  
2. B and C  
3. A only  
4. C only  
  
**17.**   
A. Dinosaurs are pre-historic creatures. Water-buffaloes are not dinosaurs. Water-buffaloes are not pre- historic creatures.  
B. All politicians are frank. No frank people are crocodiles. No crocodiles are politicians.  
C. No diamond is quartz. No opal is quartz. Diamonds are opals.  
D. All monkeys like bananas. Some GI Joes like bananas. Some GI Joes are monkeys.  
  
1. C only  
2. B only  
3. A and D  
4. B and C  
  
**18.**   
A. All earthquakes cause havoc. Some landslides cause havoc. Some earthquakes cause landslides.  
B. All glass things are transparent. Some curios are glass things. Some curios are transparent.  
C. All clay objects are brittle. All XY are clay objects. Some XY are brittle.  
D. No criminal is a patriot. Ram is not a patriot. Ram is a criminal.  
  
1. D only  
2. B only  
3. C and B  
4. A only  
  
**19.**   
A. MD is an actor. Some actors are pretty. MD is pretty.  
B. Some men are cops. All cops are brave. Some brave people are cops.  
C. All cops are brave. Some men are cops. Some men are brave.  
D. All actors are pretty; MD is not an actor; MD is not pretty.  
  
1. D only  
2. C only  
3. A only  
4. B and C

**20.**   
A. All IIMs are in India. No BIMs are in India. No IIMs are BIMs.  
B. All IIMs are in India. No BIMs are in India. No BIMs are IIMs.  
C. Some IIMs are not in India. Some BIMs are not in India. Some IIMs are BIMs.  
D. Some IIMs are not in India. Some BIMs are not in India. Some BIMs are IIMs.  
  
1. A and B  
2. C and D  
3. A only  
4. B only  
  
**21.**   
A. Citizens of Yes Islands speak only the truth. Citizens of Yes Islands are young people. Young people speak only the truth.  
B. Citizens of Yes Islands speak only the truth. Some Yes Islands are in the Atlantic. Some citizens of Yes Islands are in the Atlantic.  
C. Citizens of Yes Islands speak only the truth. Some young people are citizens of Yes Islands. Some young people speak only the truth.  
D. Some people speak only the truth. Some citizens of Yes Islands speak only the truth. Some people who speak only the truth are citizens of Yes Islands.  
  
1. A only  
2. B only  
3. C only  
4. D only  
  
**22.**   
A. All mammals are viviparous. Some fish are viviparous. Some fish are mammals.  
B. All birds are oviparous. Some fish are not oviparous. Some fish are birds.  
C. No mammal is oviparous. Some creatures are oviparous and some are not. Some creatures are not mammals.  
D. Some creatures are mammals. Some creatures are viviparous. Some mammals are viviparous.  
  
1. A only  
2. B only  
3. C only  
4. D only  
  
**23.**   
A. Many singers are not writers. All poets are singers. Some poets are not writers.  
B. Giants climb beanstalks. Some chicken do not climb beanstalks. Some chicken are not giants.  
C. All explorers live in snowdrifts. Some penguins live in snowdrifts. Some penguins are explorers.  
D. Amar is taller than Akbar. Anthony is shorter than Amar. Akbar is shorter than Anthony.  
  
1. A only  
2. B only  
3. B and C  
4. D only