SET - B

U.S.N

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Semester End Examination; July / Aug. - 2022

Aptitude and Reasoning Development - Advanced (ARDA)

(Common to all Branches)

Time: 2 hr.   Max. Marks: 50

Instructions:

Questions 1 – 25 carry Two marks each; Put a (✔) mark against correct option in the answer sheet.

Travel

Travel is something which people do every day. It is very difficult to avoid the need to travel. It may be a trip to school, university or to work. Travelling can often take a long time, especially when great distances need to be covered. People often enjoy travelling abroad for holidays. But for some people travelling is not fun at all. Some people suffer from travel sickness. This means that they will become very unwell each time they travel.

Travelling can be either affordable or costly. It often depends on how far you want to travel and the choice of transport. Using a bicycle will not cost anything as you power it by using your legs. However, the use of a bicycle can be hard work and can take a lot of time to travel long distances. Cars and motorcycles are faster modes of transport, but are more expensive to use as gasoline is needed for them to work. It can usually be assumed that the longer you wish to travel, the more expensive and time consuming it will be.

The use of a plane is necessary for people wanting to travel very long distances. A pilot will fly a plane from an airport for many thousands of miles to take people to places far away. Although traffic is rarely a problem for airplanes, it can take a lot of preparation to travel by plane. People often need to arrive at the airport three hours prior to departure.

A train is another mode of transport which is ideal for travelling long distances within the same country, or between countries which are connected by land. A train driver will stop at train stations on route to allow passengers wishing to proceed to the scheduled destination to board the train.
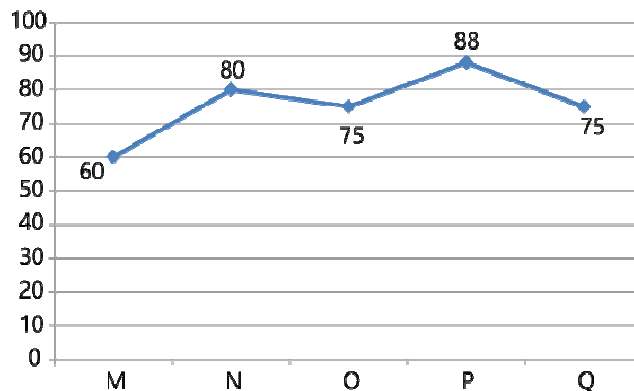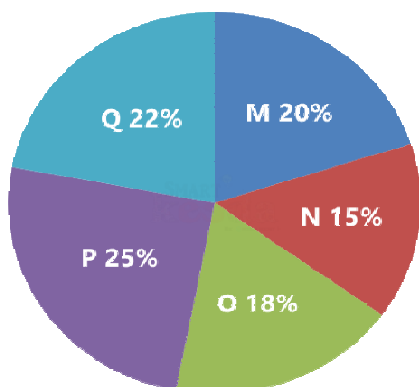
A number of destinations can be travelled to by using the sea. People often depart from a harbor in a ferry which is driven by a captain. If the journey is a long distance, people may choose to sleep on the ferry while they wait to arrive at their destination. Some people choose to go on a cruise for their holiday, which would involve stopping at many different city ports for a short amount of time. People who need to travel short distances may choose not to use any transport at all. People often rely on their legs to take them to places nearby. This is often encouraged as certain modes of transport have been said to produce harmful emissions and damage the environment.

1) Which mode of transport does not cost money?

   a) Train   b) Car   c) Walking   d) Bus

2) Why do some people not enjoy travelling?

   a) They find it a waste of time   b) It is not comfortable

   c) It is expensive   d) They become unwell

3) Name the mode of transport which is controlled by a pilot and stops at an airport.

   a) Train   b) Airplane   c) Car   d) Bus

4) Name the mode of transport which is controlled by a captain and stops at a port.

   a) Train   b) Car   c) Ship   d) Airplane

5) A committee has 5 men and 6 women. What are the number of ways of selecting 2 men and 3 women from the given committee?

   a) 150   b) 200   c) 250   d) 300   e) None of these

6) A committee has 5 men and 6 women. What are the number of ways of selecting 2 men and 3 women from the given committee?

  a) 150   b) 200   c) 250   d) 300   e) None of these

7) The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?

  a) 76 kg   b) 76.5 kg   c) 85 kg   d) Data inadequate   e) None of these

8) The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:

  a) 35 years   b) 40 years   c) 50 years   d) None of these

9) 70 lites of a mixture of milk and water contains 20% water. How much water should be added so that the mixture has 28% water?

  a) 50/9 liter   b) 60/9 liter   c) 70/9 liter   d) 100/9 liter   e) None of these

10) Rice worth Rs. 110 per kg and Rs. 95 per kg are mixed with a third variety in the ratio 1:1:2. If the mixture is worth Rs. 115 per kg, the price of the third variety per kg will be

  a) 117.5   b) 127.5   c) 137.5   d) 147.5

11) If in an A.P., first term is 20 and 12 term is 120. Find the sum up to 12h term.

  a) 420   b) 840   c) 140   d) 1680

12) The middle term of arithmetic series 2, 6, 10, ...,146

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  a) 70   b) 79   c) 74   d) 83

13) If a=3 and r=2 then find the sum up 5th term.

  a) 95   b) 82   c) 93   d) 97

14) Which of the following sequences in GP will have common ratio 3, where n is an Integer?

  a) gn = 6(3n-1)   b) gn = 3n2 + 3n   c) gn = 2n2 + 3   d) gn = 2n2 + 3n

15) In a certain code language HOUSE is written as IPVTF. How will SCHOOL be written in that code

  a) TIDPPM   b) TFIPQM   c) TDIPPM   d) TDIMMP

16) If the alphabets A to Z represent each other in the reverse order i.e A = Z, B = Y, C = X etc., then how TOUR would be written?

  a) GLIF   b) GLFI   c) GILF   d) None of these

17) If POINT + ZERO = ENERGY, then E + N + E + R + G + Y = ?

  a) 17   b) 18   c) 19   d) 20

18) If GO + TO = OUT, then O + U + T = ?

  a) 1   b) 2   c) 3   d) 4

Directions: Study the following information carefully and answer the question given below: Pie chart shows the production of rice by 5 different factories and line chart shows the percentage of sale.

Total production = 3600 kg

19) If the cost price of rice is Rs 45 per kg and profit earned by factory Q on 1 kg rice is 20% of the cost price, find the total profit earned by factory Q.

a) Rs 4326   b) Rs 5256   c) Rs 5346   d) Rs 5697

20) What is the ratio of rice sold by factory P and Q together to the rice sold by factory N and O together?

a) 71 : 54   b) 77 : 51   c) 25 : 29   d) 69 : 47

Directions (Questions 1 to 6): Study the following table and answer the questions based on it.

The number of candidates appeared qualified and selected in a competitive examination from five states Delhi, H. P., U. P., Punjab and Haryana over the years 1994 to 1998.

	Delhi			H. P.			U. P.			Punjab			Haryana		
Year	App.	Qual.	Sel.	App.	Qual.	Sel.	App.	Qual.	Sel.	App.	Qual.	Sel.	App.	Qual.	Sel.
1997	8000	850	94	7800	810	82	7500	720	78	8200	680	85	6400	700	75
1998	4800	500	48	7500	800	65	5600	620	85	6800	600	70	7100	650	75
1999	7500	640	82	7400	560	70	4800	400	48	6500	525	65	5200	350	55
2000	9500	850	90	8800	920	86	7000	650	70	7800	720	84	6400	540	60
2001	9000	800	70	7200	850	75	8500	950	80	5700	485	60	4500	600	75

21) In the year 1997, which state had the lowest percentage of candidates selected over the candidates appeared?

a) Delhi   b) H. P.   c) U. P.   d) Punjab   e) Haryana

22) The percentage of candidates qualified from Punjab over those appeared from Punjab is highest in the year:

a) 1997   b) 1998   c) 1999   d) 2000   e) 2001

23) The percentage of candidates selected from U. P. over those qualified from U. P. is highest in the year:

a) 1997   b) 1998   c) 1999   d) 2000   e) 2001

24) The number of candidates selected from Haryana during the period under review is approximately what percent of the number selected from Delhi during this period?

a) 79.5%   b) 81%   c) 84.5%   d) 88.5%   e) 92.5%

25) For which state the average number of candidates selected over the years is the maximum?

a) Delhi   b) H. P.   c) U. P.   d) Punjab   e) Haryana

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