SET - D

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.

Biofuels and the Environment

Leading investors have joined the growing chorus of concern about governments and companies rushing into producing biofuels as a solution for global warming, saying that many involved in the sector could be jeopardizing future profits if they do not consider the long-term impact of what they are doing carefully.

It is essential to build sustainability criteria into the supply chain of any green fuel project in order to ensure that there is no adverse effect on the surrounding environment and social structures. The report produced by the investors expresses concern that many companies may not be fully aware of the potential pitfalls in the biofuel sector.

Production of corn and soya beans has increased dramatically in the last years as an eco-friendly alternative to fossil fuels but environmental and human rights campaigners are worried that this will lead to destruction of rain forests. Food prices could also go up as there is increased competition for crops as both foodstuffs and sources of fuel. Last week, the UN warned that biofuels could have dangerous side effects and said that steps need to be taken to make sure that land converted to grow biofuels does not damage the environment or cause civil unrest. There is already great concern about palm oil, which is used in many foods in addition to being an important biofuel, as rain forests are being cleared in some countries and people driven from their homes to create palm oil plantations.

An analyst and author of the investors' report says that biofuels are not a cure for climate change but they can play their part as long as governments and companies manage the social and environmental impacts thoroughly. There should also be greater measure taken to increase efficiency and to reduce demand.

1. _____ are worried about the boom in biofuels.

   a) Few people   b) Many people   c) Only these leading investors

2. Biofuel producers _____ know about the possible problems.

   a) do not   b) might not   c) must not

3. Environmentalists believe that increased production of corn and soya

   a) has destroyed rain forests.

   b) may lead to the destruction of rain forests.

   c) will lead to the destruction of rain forests.

4. Biofuels might

    a) drive food prices up.

    b) drive food prices down.

    c) have little or no impact on food prices.

5. The increased production of palm oil

    a) just affects the environment.

    b) just affects people.

    c) affects both people and the environment.

6. The author of the report says that biofuels

    a) have no role to play in fighting global warming.

    b) can be effective in fighting global warming on their own.

    c) should be part of a group of measures to fight global warming.

7. Groups each containing 3 boys are to be formed out of 5 boys. A, B, C, D and E such that no group can contain both C and D together. What is the maximum number of such different groups?

    a) 5   b) 6   c) 7   d) 8

8. Three dice (each having six faces with each face having one number from 1 or 6) are ralled. What is the number of possible outcomes such that atleast one dice shows the number 2?

    a) 36   b) 81   c) 91   d) 116

9. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

    a) 23 years   b) 24 years   c) 25 years   d) None of these

10. If the average marks of three batches of 55, 60 and 45 students respectively is 50, 55, 60, then the average marks of all the students is:

    a) 53.33   b) 54.68   c) 55   d) None of these

11. How many Kgs of rice A costing rupees 20 per kg must be mixed with 20 kg of rice B costing rupees 32 per kg, so that after selling them at 35 rupees per kg, he gets a profit of 25%.

    a) 10 kg   b) 40 kg   c) 24 kg   d) 25 kg

12. How many liters of water must be added to 60 liter mixture that contains milk and water in the 7:3 such that the resulting mixture has 50% water in it?

    a) 12   b) 16   c) 24   d) 28

13. The First term and common difference for the A.P. 3,1,-1,-3 is:

    a) 1 and 3   b) -1 and 3   c) 3 and -2   d) 2 and 3

14. The 10th term from the end of the A.P. -5,-10,-15,.,-1000 is

    a) -955   b) -945   c) -950   d) -965

15. How many terms of the G.P. $4 + 16 + 64 + \ldots$ will make the sum 5460?

    a) 9   b) 7   c) 8   d) 6

16. The tenth term of gp is $1/2^8$ and the 5th term is $1/2^3$ what is the common ratio?

    a) 1/16   b) ½   c) 1/8

17. In a certain code language, 125 = Go to school, 146 = Study in school, 135 = Run to school. Which digit is used for 'run'?

    a) 3   b) 1   c) 6   d) 2

18. If MOBILITY is coded as 46293927, then EXAMINATION is coded as

    a) 45038401854   b) 56149512965   c) 57159413955   d) 67250623076

19. BANANA + GUAVA = ORANGE

    O + R + A + N + G + E = ?

    a) 31   b) 30   c) 29   d) 28

20. If HOW + MUCH = POWER ,then what is the value of

    P + O + W + E + R?

    a) 10   b) 11   c) 12   d) 13

The following table shows the number of new employees added to different categories of employees in a company and also the number of employees from these categories who left the company every year

	Managers		Technician		Operator		Accountant		peons	
Year	New	Left	New	Left	New	Left	New	Left	New	Left
1995	760	-	1200	-	880	-	1160	-	820	-
1996	280	120	272	120	256	104	200	100	184	96
1997	179	92	240	128	240	120	224	104	152	88
1998	148	88	236	96	208	100	248	96	196	80
1999	160	72	256	100	192	112	27	88	224	120
2000	193	96	288	112	248	144	260	92	200	104

21. What is the difference between the total number of Technicians added to the Company and the total number of Accountants added to the Company during the years 1996 to 2000?

    a) 128   b) 112   c) 96   d) 88

22. What was the total number of Peons working in the Company in the year 1999?

    a) 1312   b) 1192   c) 1088   d) 968

23. For which of the following categories the percentage increase in the number of employees working in the Company from 1995 to 2000 was the maximum?

    a) Managers   b) Technicians   c) Operators   d) Accountants

24. What is the pooled average of the total number of employees of all categories in the year 1997?

    a) 1325   b) 1195   c) 1265   d) 1235

25. During the period between 1995 and 2000, the total number of Operators who left the Company is what percent of total number of Operators who joined the Company?

    a) 19%   b) 21%   c) 27%   d) 29%

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