ENVIRONMENTAL ISSUES

1. Nuclear power must be unfavorable because the waster from nuclear reactions is highly fatal to life and unfriendly to the environment.

   1. anything that has ill-effects on the ecosystem must be prohibited
   2. waste from nuclear reactors can be disposed safely and efficiently
   3. nuclear scientist have not exerted enough effort to control and dispose the waste from radius safely
   4. measures taken to control and dispose of waste from nuclear reactors have been fruitless
   5. today, technology cannot effectively reduce harmful effects of nuclear waste disposal

2. Chlorofluorocarbons are popular as propellants and solvents because they are

   1. reactive **3. stable** 5. biodegradable
   2. soluble 4. cheap

3. Monoculture cropping or planting a single crop in a large area is not advisable because it-

   1. promotes pest infestation
   2. requires more water
   3. lowers the water table
   4. requires less fertilizer
   5. causes drought

4. Which of the following is the major cause of coral-reef destruction?

   1. Dynamite fishing **3. moro-ami** 5. oil spill
   2. sewerage pollution 4. siltation

5. Putting up dams along rivers negatively affect on marine fishes because _____

   1. less water will flow to the sea
   2. less minerals will flow to the sea
   3. when dams break, the connection wall can be harmful to fishes
   4. some marine fishes spends part of their life cycle upstreams
   5. some marine fishes need the coral reefs upstream

6. The government is established for the furtherance and guarantees of certain inalienabale human rights.

   1. proclamation
   2. suspension
   3. transfer
   4. prohibition

5. preservation

7. The court has resisted the clamor to issue a temporary injunction for the sake of _____.

1. principle
2. expediency
3. integrity
4. honesty
5. sincerity

8. From the extensive date gathered in the Philippines for the period 1990-1995, there are indications that some rivers are still relatively clean particularly in Mindanao _____.

1. the over-all quality of the rivers has deteriorated
2. not all rivers in the Philippines are polluted
3. Philippine rivers could no longer sustain life
4. The rivers in the Philippines are polluted
5. Rivers in Luzon and Visayas are unsafe for fishing and recreational purposes

9. In being economical, one must decide where the best place to begin really in some families engage in petty economic that requires effort disproportionate to the _____.

1. happiness gained
2. sacrifice mode
3. resources conserved
4. money saved
5. time spent

10. Education is not a preparation for life, it is life itself.

1. education has no beginning or end
2. education does not prepare us for life
3. education is useless when we have short life
4. we do not need to study, we only need to live
5. the sum total of our happiness is the source of life-long learning

LOGICAL ANALYSIS

1. Mitch is probably a pianist. She can really stretch her hand and fingers.

1. only people with big hands and long fingers can be pianist.
2. **playing the piano helps Mitch stretch her hands and fingers**
3. stretching helps pianist perform
4. a long stretch enables to read more, keep in the piano

2. Chris is a responsible man, He takes good care of his family.

1. taking good care of the family is the responsibility of men
2. **responsible men take good care of their families**
3. the family is responsible for taking care of men

4. a good family produces responsible men
5. a responsible person has a good family

3. All flowers are fragrant. Some flowers are brightly colored. The gumamela is a kind of flower, the sabila is not a kind of flower.

1. some brightly colored flowers are fragrant
2. the sabila is not brightly colored
3. the sabila is not fragrant
4. the gumamela is brightly colored
5. the gumamela is fragrant

4. If fishes cannot breed, they will die. Coral reefs are the only breeding places of fishes. All coral reefs will be destroyed by 20 years from now.

1. now species of fishes will appear
2. a coral reefs will form in the deepest sea
3. seas and oceans will have higher contact
4. fishes will be very expensive
5. fishes will cease to exist

5. Joel's poem are modernistic, since they deal with complicated subject matters.

1. complicated subject matters are intellectually stimulating
2. complicated subject matters are suited to modernistic poetry
3. modernistic poetry is intellectually pretentious
4. modernistic poetry depicts true to live events
5. none of these

6. What power that can be delegated by the President?

1. pardon power
2. military power
3. judicial power
4. executive power
5. legislative power

7. In 1987 Constitution, what government agency is given the highest priority budget?

1. DND
2. Health
3. Agriculture
4. Education
5. NEDA

8. What government organization is controlled by the Local Government?

1. DILG
2. House of Speaker
3. Senator
4. Congressman
5. Ombudsman

9. What kind of gas that should be recycled/reusable?

1. kerosene
2. LPG gas
3. natural gas
4. biogas
5. others

10. What will you say, or suggest, or what will you do if you see hundred of papers floating on the river?

1. collect it as souvenir
2. let the fishes eat all the papers
3. papers can be recycled
4. biodegradable
5. none of these

11. If points M, N, O and P are arranged in such a way that three of them lie in a line, how many lines are there?

1. 4
2. 5
3. 6
4. 8
5. 10

12. Find the correct number that replaces the number that breaks the pattern of the series : 405, 135, 35, 15, 5

1. 35
2. 45
3. 55
4. 30
5. 15

IDIOMATIC EXPRESSIONS

1. They were able to WEATHER the storm.

1. reached home safely
2. **survived the crisis**
3. defeated the enemies
4. realized their mistakes
5. predicted the calamity

2. TRUST men and they will be true to you.

    1. **a man is loyal in whom confidence had been placed**
    2. man must trust you to be faithful to you
    3. a secret is a test of friendship
    4. destruct the people justifies their deserving
    5. trust all men in everything or more in anything

3. CUT your coat to your cloth.

    1. walk in accordance with your ability
    2. **desire only what you can afford**
    3. patronize first your own product
    4. express only relevant ideas
    5. dress up according to the accessories

4. Paddle your own CANOE.

    1. always tries his best
    2. earn his own money
    3. have self-respect
    4. learn from his mistakes
    5. **be self-reliant**

5 This report leaves much to be DESIRED.

    1. **satisfactory**
    2. longed
    3. important
    4. legible
    5. ready

6. He was man of PRINCIPLE.

    1. popular
    2. forceful
    3. hardworking
    4. noble
    5. **righteous**

7. She is running up an ACCOUNT with the store.

    1. keep the books of the store
    2. is paying her bills all in the store
    3. **is buying many things in credit**

4. works as part-time accountant
5. spends much buying unnecessary things

8. STRIKE while the iron is hot.

1. use his physical and mental power
2. **make the most of every opportunity**
3. solves any problems immediately
4. use his time wisely
5. work hard all the time

9. In union, there is STRENGTH.

1. **power is gained through justification**
2. those who wait cannot be defeated
3. a person should not try to crash the world on his shoulder
4. one clerk cannot run a large office
5. man who rise fight hard be little

10. Deep sea fishing, he is an OLD MAN.

1. broad-minded
2. unable
3. experience
4. **inefficient**
5. unstilled

NUMBER SERIES

1. 4.16 5.25 6.36 7.49 8.64 _____.

1. 9.36
2. 9.81
3. 8.81
4. 6.64
5. 7.72

Answer: Taking/comparing the difference of each number from its predecessor..
(*minuend − subtrahend =difference)* Take note of their progression: each difference is .02 higher than its predessor. The next number of the series should have 1.17 or 1.15+0.02 difference from the last number.

4.16 5.25 6.36 7.49 8.64 _____.
1.09 1.11 1.13 1.15 (1.17)

The answer should be 8.64 + 1.17 = 9.81

2. 5 6 10 19 35 60 _____.

1. 98
2. 86
3. 96
4. 72
5. 36

Answer: Taking/comparing the difference of each number from its predecessor, you'll notice that the difference is of special property. They are all squares of a number.

5 6 10 19 35 60 _____.
1 4 9 16 25 36
1^2 2^2 3^2 4^2 5^2 6^2

The next number should be: add 6^2 to the previous number.
The answer is 60+36=96.

3. 4/3 -2/3 -1/3 1/6 -1/12 -1/18 _____.

1. 4/3
2. 2/3
3. **1/36**
4. 1/3
5. –3/4

Answer: Just divide the number by 2 and alternate the +/- signs one + and two – or +, -, -, +, -, -, +…

4/3 ÷ 2 = 2/3
2/3 ÷ 2 = 1/3
1/3 ÷ 2 = 1/6
1/6 ÷ 2 = 1/12
1/12 ÷ 2 = 1/24 →Uh oh.. This must be a clerical error on the examiner part but do not let it distract you.. Assume that the answer is 1/18..
1/18 ÷ 2 = 1/36 but The true answer should be 1/48..

4. .25 1 5.25 6 _____

1. **10.25**
2. 12.25
3. 15.75
4. 13.25
5. none

Answer: Observe the series, it is obvious there is a pattern because xx.25 and a whole number is repeated. Taking the difference of the numbers inside the series,

.25 1 5.25 6
.75 4.25 0.75

The next number should have a 4.25 difference from number 6, so the answer is 6+4.25 = 10.25

PROBLEM SOLVING

1. **What is the greatest numerical value?**

1. 3/8
2. 5/6
3. 3/4
4. 1/3
5. 2/3

Answer: If you are good at converting fractions into decimals, this problem would be easy. Review: Division/ Fraction e.g. 1) 3 ÷ 8

```
    0.3 7 5
8 | 3 0
  - 2 4
    6 0
  - 5 6
      4 0
    - 4 0
        0
```

Converting the fractions to decimals:
1) 0.375 2) 0.833 3) 0.75 4) 0.333 5) 0.666

2. **What is the standard numerical value for 3.54 x 10 the 5th power?**

1. 35, 400
2. 0.000354
3. **354, 0000**
4. 0.00354
5. 0.354

Answer: Review Scientific numbers and Exponents. This is a very easy problem. For starters, if there is a $\times 10^x$ or $\times 10$ the X^{th} power, deal with it first. You'll just multiply the 10 by itself Xth times, or $10\times10\times10\times10\times10\times\ldots10$, and multiply that to the other given number in the problem. In the problem, it is a $\times 10^5$, you'll need to multiply 10, 5 times.. $10\times10\times10\times10\times10 = 100{,}000$. Notice that the result has 5 zeros, That would make the problem a lot easier. Multiplying 100,000 to 3.54 gives us 354,000. Notice how the decimal point was moved 5 steps to the right, which makes the problem faster to solve if you meet this in the actual civil service exam, you'll just move the decimal point X steps to the right(if positive) and to the left (if negative).. The answer has another clerical error. Be open minded for possible errors while answering the actual exam.

3. **Which of the following has the least numerical value?**

1. 6+3 x 4
2. 4+3 x 6
3. 4 x 6 +3
4. 3 x 6+4
5. 3 +6 x 4

This is an MDAS problem. In algebra, MDAS plays an important role in solving the problem. By studying the problem, or by trying to answer it through MDAS in my mind, I noticed that choices 3 and 5, 4 and 2 will give the same answer, which leaves choice one as the only possible answer.

4. **The formula for covering Fahrenheit thermometer reading to centigrade reading is C=5/9 (F-32). What is the equivalent of 95 degrees Fahrenheit?**

   1. 35
   2. 40
   3. 45
   4. 50
   5. 30

This is a simple substitution problem. Just substitute 95 degrees Fahrenheit in the formula.

5. **A farmer has seven hectares of land for rice production. What should be the average yield in cavans per hectare of the land to produce a total of 525 cavans?**

   1. 50
   2. 75
   3. 85
   4. 90
   5. 92

6. **Mang Romy can climb a coconut tree at the rate of 10ft. per minute and return at 20 ft. per minute. If it took him 3 minutes to climb and return. What is the height of the coconut?**

   1. 10ft.
   2. 15ft.
   3. 18ft.
   4. 20ft.
   5. 25ft.

There are lots of ways to answer this problem.

a. One way is by guessing. It is obvious that the answer is 20 ft because it would give him 2 minutes to go up given the speed of 10 ft per minute and 1 minute to go down given the speed of 20 ft/min.
b. One way is by elimination - by solving for the time it will take for Mang Romy to finish each choices. We will be finding for an answer of three minutes using the given speeds.
   1. 10 ft – will take him 1 minute to go up and half minute to go down. A total of 1.5 mins.
   2. 15 ft – will take him 1.5 minutes to go up and 0.75 minutes to go down. A total of 2.25 mins.
   3. 18 ft - will take him 1.8 minutes to up and 0.9 minutes to go down. A total of 2.7 mins.
   4. 20 ft – will take him 2 minutes to go up and one minute to down. A total of 3 mins.
   5. I don't have to solve for choice 5. The answer is already 4.
c. By algebra: $\frac{x}{10}+\frac{x}{20}=3$ mins , formula construction takes a little time if you don't like math. This takes a little effort and practice.

7. **Basketball team lost 40% of its first 40 games, how many of its remaining 20 games, must it win to raise its winning percentage to 65%**

1. 15
2. 12
3. 16
4. 14
5. 20

Answer: Analyze the problem first.

First Point: 40% of the first 40 games was lost. They lost 16 games (0.40x40)of the first 40 games, which also means they won 24 games.

Second Point: There are still 20 games left to play. A total of 60 games over-all.

Third Point: The team must win 65% of the total game played or 65% of 60 games, which is a total of 39 games won. They already won 24 games in the first 40 games, so the only need to win 15 games to make their winning 65%.

8. **The sum of 3 numbers is 94, if the first number is 3/5 of the second number and the second number is 4/3 of the third. What are the three numbers?**

1. 20, 44, 30
2. 24, 30, 35
3. 15, 40, 35
4. 22, 42, 30
5. 24, 40, 30

Long Solution: We are looking for three numbers. Let x, y, and z be the first, second and third numbers. You have 3 unknowns, meaning you have to construct 3 equations from the word problem to solve the it.

Equation 1: $x + y + z = 94$

Equation 2: $x = \frac{3}{5} y$

Equation 3: $y = \frac{4}{3} z$

To solve one unknown, you need to make a one equation out of the 3 equations. Let's say we want to solve for x. The next step is to find a way to relate y and z to x in equation 1 using equation 2 and 3.

Equation 2: Cross multiplying to get y in terms of x: $y = \frac{5}{3} x$

Equation 3: Cross multiplying to get z in terms of y: $z = \frac{3}{4} y$

Substituting y in equation 2 to get z in terms of z: $z = \frac{3}{4}\left(\frac{5}{3} x\right) = \frac{5}{4} x$

Equation 1: $x + \frac{5}{3} x + \frac{5}{4} x = 94$

Simplifying the equation: $\frac{12x+20x+15x}{12} = 94$; $\frac{47x}{12} = 94$; $x = 24$

Solving for y: $y = \frac{5}{3}x$; $y = \frac{5}{3}(24)$; $y = 40$

Looking at the choices it is obvious that the answer is choice 5, you don't have to solve for z.

Short Solution:

First: Eliminate the choices. 3 numbers should add up to 94.

1. 20+44+30 = 94 OK
2. ~~24+30+35 = 89 NOT OK~~
3. ~~15+40+35 = 90 NOT OK~~
4. 22+42+30 = 94 OK
5. 24+40+30 = 94 OK

You only have 3 choices left.

Second: Test the remaining choices. The 1st number should be three-fifth of the 2nd number.

1. 20 should be three-fifth of 44; $44(\frac{3}{5}) = 26.4 \ \therefore \neq 20$
2. 22 should be three-fifth of 42; $42(\frac{3}{5}) = 25.5 \ \therefore \neq 20$
3. 24 should be three-fifth of 40; $40(\frac{3}{5}) = 20 \ \therefore$ *this choice is the correct answer*

9. A certain elevator has a maximum weight capacity of 1, 300 lbs. If 5 employees with an average weight of 120 lbs. entered the elevator with a box weighing 250 lbs. How much is the additional weight?

1. 450
2. 350
3. 425
4. 550
5. 500

Answer: The problem is a problem itself. You have to assume that there is another weight added aside from the 5 employees and the 250lb box. The problem should be how much additional weight could be added to fully load the elevator?

10. In one bag of chicken feeds there are 24 chickens eating it in 45 days. In how many days do 15 chickens consume the feeds?

1. 60
2. 90
3. 72
4. 80
5. 64

Answer: This problem is a tricky one. In our Engineering Board Exam, there are lots of problems like this. This is my favorite. This type of problems are work related, this is called man-days or man-hours problem. As to this problem, it is chicken-days problem.

24(45) chicken-days = 15x chicken-days

x= 72 days

11. Two planes travel from opposite direction. Plane A travel 70 kph from one direction and Plane B travel from opposite direction at the rate of 90 kph. If the distance is 640 km. In how many hours the two planes intersect?

1. 1
2. 2
3. 3
4. **4**
5. 5

Solution: You need to draw this one, in order to analyze it better. Two planes meet at some point along the 640 km. Which means that if you add the distance of Plane A at that time to that of Plane B, you'll get 640 km.

70t + 90t = 640 ; 160t = 640 ; t = 4 hours

12. There two planes fly in two directions one is flying for East direction with the rate of 300kph and other is for West direction with the rate of 360 kph. In how many minutes if they are 660 km apart?

1. 60 min.
2. 120 min
3. 90 min
4. 100 min
5. 150 min.

This is just a trick question. The answer is obvious. In one hour, they'll be 660km apart. Many examiners would not finish reading the problem because they would think from the start that the problem is hard.

13. If 2/3 of employees of a company are women and ¼ of the remaining employees are married and the rest are 9 bachelors. What is the total number of employees?

1. 32
2. 42
3. 38
4. **36**
5. 25

Solution:
Statement 1: 2/3 are women, which also means 1/3 are men
Statement 2: ¼ of the men are married, which also means ¾ of men are bachelor
Statement 3: 9 are bachelor, which is ¾ of the men population. Which means that there are only 12 men of the total population. Since men is only 1/3 of the population, the total population would be 12 times 3, which is 36.

14. Find the square of the number in the number series which appears most of the time.

7 3 4 5 6 1 7 2 3 7

1. 3
2. 6
3. 9
4. 36
5. **49**

Solution: 7 appears 3 times. $7^2=49$

15. A man bought ten ball pens at P25.00 each and five wallet at P50.00 each and the last is three towels at P70.00 each. What is the smallest amount of money so he can buy all items?

1. P650.00
2. P700.00
3. **P750.00**
4. P800.00
5. P850.00

The total items add up to P710 (250 for 10 ballpens, 250 for 5 wallets and 210 for 3 towels)

16. The merchandiser bought 55 copies of books cost P3, 300.00 and add six copies more. How much should he pay for all the books?

1. P3, 380.00
2. P3, 360
3. **P3, 660.00**
4. P3, 920.00
5. 3, 310.00

17. The showing of the movie starts at 6:18 P.M., and it will last at 8:05. How many minutes does the movie showed?

1. 103
2. 123
3. 107
4. 143
5. 157

18. Three tickets of musical concert cost P714. How much a dozen of tickets cost?

1. P2, 469
2. P2, 946
3. **P2, 964**
4. P3,269
5. 4, 325

Again, there is missing in the problem or the problem is erroneous. However, if you divide all choices with 12 or 1 dozen, only choice 3 will give us a whole number, therefore, it must be the answer.

19. The length of rectangular lot is one less than twice its width. If the perimeter is 16cm., what is the width of the lot in centimeter?

1. 1
2. 2
3. **3**
4. 4
5. 5

W

L = 2W-1

2L+2W=16
2(2W-1)+2W=16
4W-2+2W=16
6W=18 ; W=3

20. The width of a rectangular lot is X meters and its length is 5 meters more than its width. If its dimensions are decreased by 2 meters, then its area will decrease by_____.

1. 4 sq.m
2. $x^2 + (x - 6)$sq.m
3. **4x+6 sq. m**
4. 2x – 3 sq.
5. none of this

SOLUTION: Sketch the rectangle

L=X+5

W=X

Original Area = LW = (X+5)X
Original Area = X^2+5X

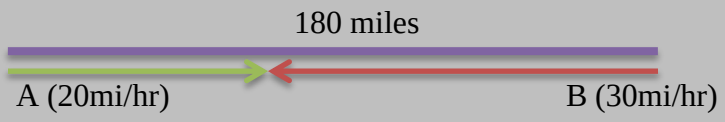
New Area = (L-2)(W-2) = (X+3)(X-2)
New Area = X^2+X-6

Decrease = Orig – New Area
Decrease = X^2+5X – (X^2+X-6)
Decrease = ~~X^2~~+5X – ~~X^2~~-X+6
Decrease = 4X+6 sq. m.

21. Two planes X and Y are 180 miles apart and moving from opposite direction at a rate of 20 and 30 miles per hour respectively. How many miles is covered by the slower plane when they intersect?

1. 50 miles
2. **72 miles**
3. 90 miles
4. 60 miles
5. 80 miles

Solution: Since the will just intersect each other, the 180 mi. will just be divided by the two planes. We can use ratio and proportion, the distance covered by X will be 2/5 of the 180mi. and Y will be 3/5 of the 180mi. 2/5 of 180 = 72mi.

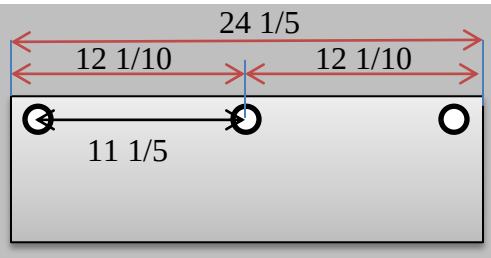


Logic:

1. The whole distance 180mi. will be covered by A and B. at the rate of A+B or 50 mi/hr.
2. Since only A's distance was asked, 20 out of the 50 mi/hr rate was covered by A.

22. The length of an envelope is 24 1/5 cm.. Three holes at 11 1/5 cm. Apart are placed at the center of the envelope. How far apart is the side of the envelope to the first hole in centimeter?

1. 9/10 3. 1 1/5 5. 13
2. 7/10 4. 12 1/10



24 1 /5 ÷ 2 = 12 1/10

Distance between the Edge and the first hole = 12 1/10 – 11 1/5 = 9/10

23. 4% of 510 lbs. Of sea water is salt. How much pure water is to be extracted to make it contain 17% salt?

1. 220 lbs. 3. 397 lbs. 5. 290lbs.
2. 390 lbs. 4. 107.1 lbs.

Solution:

4% of 510 bs is salt, meaning, 20.4 lbs are salt.

When would 20.4 lbs salt be 17% of the Sea Water?
Answer: 20.4/0.17 = when the Sea Water is 120lbs.

Question: How much pure water is to be extracted to make it contain 17% salt?
Answer: 510 – 210 lbs = 390 lbs.

24. The population of the present time is 20% less than the previous population. If the present population is 4, 000. What is the previous population?

1. 5, 000 3. 4, 200 5. 8,000
2. 5, 200 4. 5, 800

Solution:

0.8 X = 4,000 X = 4,000/.8 = 5,000