**ACTUARIAL SCIENCE**

**(ACET)**

**MOCK TEST**

**PAPER III**

**BY**

**SOURAV SIR’S CLASSES**

**KOLKATA & NEW DELHI**

1. If n is a positive integer, then which of the following relations is false

|  |  |
| --- | --- |
| A i4n = 1 | B i4n +1 = i |
| C i4n-1 = i | D i-4n = 1 |

[Answer & Explanation](javascript:showans('1705','Classification')) **Answer:** A) i4n = 1  
  
**Explanation:**

We know that i² = -1 (i²)2 = 1 ⇒ i4n = 1n   
and therefore i4n = -i - See more at: http://www.onlineselftest.com/if-n-is-a-positive-integer-then-which-of-the-following-relations-is-false#sthash.RcJVUAEM.dpuf

2. The value of (1 + i)⁵ \* (1 - i)⁵ is.

|  |  |
| --- | --- |
| A - 8 | B 8 |
| C 8i | D 32 |

[Answer & Explanation](javascript:showans('1705','Classification'))

**Answer:** D 32

**Explanation:**

(1 + i)⁵ \* (1 - i)⁵ = (1 - i2)⁵ = 2⁵ = 32

3. Two cards are drawn at random from a well - shuffled pack of 52 cards. what is the probability that either both are red or both are queens?

|  |  |
| --- | --- |
| A) 17/112 | B) 55/221 |
| C) 55/121 | D) 33/221 |

Answer & Explanation Answer: B) 55/221

Explanation:

n(S) =  http://latex.codecogs.com/gif.latex?%5Cinline%20%5E%7B52%7D%5Ctextrm%7BC%7D_%7B2%7D  = 1326

 Let  A = event of getting both red cards

and B = event of getting both queens

then http://latex.codecogs.com/gif.latex?%5Cinline%20A%5Ccap%20B = event of getting two red queens

n(A) = http://latex.codecogs.com/gif.latex?%5Cinline%20%5E%7B26%7D%5Ctextrm%7BC%7D_%7B2%7D = 325,   n(B) = http://latex.codecogs.com/gif.latex?%5Cinline%20%5E%7B4%7D%5Ctextrm%7BC%7D_%7B2%7D = 6

http://latex.codecogs.com/gif.latex?%5Cinline%20n%28A%5Ccap%20B%29%3D%20%5E%7B2%7D%5Ctextrm%7BC%7D_%7B2%7D%3D1

http://latex.codecogs.com/gif.latex?%5Cinline%20%5Ctherefore http://latex.codecogs.com/gif.latex?%5Cinline%20P%28A%29%3D%5Cfrac%7B325%7D%7B1326%7D%2C%5C%3B%20%5C%3B%20P%28B%29%3D%5Cfrac%7B6%7D%7B1326%7D%3D%5Cfrac%7B1%7D%7B221%7D

http://latex.codecogs.com/gif.latex?%5Cinline%20P%28A%5Ccap%20B%29%3D%5Cfrac%7B1%7D%7B1326%7D

http://latex.codecogs.com/gif.latex?%5Cinline%20%5Ctherefore P (both red or both queens) = http://latex.codecogs.com/gif.latex?%5Cinline%20P%28A%5Ccup%20B%29

= http://latex.codecogs.com/gif.latex?%5Cinline%20P%28A%29&plus;P%28B%29-P%28A%5Ccap%20B%29

= http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfrac%7B325%7D%7B1326%7D&plus;%5Cfrac%7B1%7D%7B221%7D-%5Cfrac%7B1%7D%7B1326%7D = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfrac%7B55%7D%7B221%7D

4. Three fair coins are tossed simultaneously. Find the probability of getting more heads than the number of tails

|  |  |
| --- | --- |
| A) 2 | B) 7/8 |
| C) 5/8 | D) 1/2 |

Answer & Explanation Answer: D) 1/2   
  
Explanation:

S = { HHH, HHT, HTH, HTT, THH, THT, TTH, TTT }

=> n(S) = 8

E = { HHH, HHT, HTH, THH }

=> n(E) = 4

P(E) = 4/8 = ½

5. 270 candidates appeared for an examination, of which 252 passed. The pass percentage is :

|  |  |
| --- | --- |
| A) (91 + 1/3)% | B) (93 + 1/3 )% |
| C) (97 + 1/3 )% | D) (98 + 1/3) % |

Answer & Explanation Answer: B) (93 + 1/3 )%   
  
Explanation:

Pass percentage  = http://latex.codecogs.com/gif.latex?%5Cinline%20%28%5Cfrac%7B252%7D%7B270%7D%5Ctimes%20100%29% =http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfrac%7B280%7D%7B3%7D % = http://latex.codecogs.com/gif.latex?%5Cinline%2093%5Cfrac%7B1%7D%7B3%7D %

6. Arrange the fractions in ascending order

|  |  |
| --- | --- |
| A) 5/8 < 7/12 < 3/4 < 13/16 | B) 5/8 < 7/12 < 13/16 < 3/4 |
| C) 5/8 < 3/4 < 13/16 < 7/12 | D) 7/12 < 5/8 < 3/4 < 13/16 |

Answer & Explanation Answer: D) 7/12 < 5/8 < 3/4 < 13/16

Explanation:

5/8 = .625, 7/12 = .5833, 3/4 = .75, 13/16 = .8125  
  
So order will be   
7/12 < 5/8 < 3/4 < 13/16

7. If log 2 = 0.3010 and log 3 = 0.4771, the values of log5 512 is

|  |  |
| --- | --- |
| A) 2.875 | B) 3.875 |
| C) 4.875 | D) 5.875 |

Answer & Explanation Answer: B) 3.875   
  
Explanation:

ANS:      log5512 = {\color{Black} \frac{\log 512}{\log 5}}  =  {\color{Black} \frac{\log 2^{9}}{\log (\frac{10}{2})}}  ={\color{Black} \frac{9\log 2}{\log10-\log 2 }} ={\color{Black} \frac{(9\times 0.3010)}{1-0.3010 }} ={\color{Black} \frac{2.709}{0.699 }} ={\color{Black} \frac{2709}{699 }} =3.876

8. If the radius of a circle is decreased by 50%, find the percentage decrease in its area.

|  |  |
| --- | --- |
| A) 55% | B) 65% |
| C) 75% | D) 85% |

Answer & Explanation Answer: C) 75%   
  
Explanation:

Let original radius = R.

New radius = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_cm%20%5Cfrac%7B50%7D%7B100%7DR= http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_cm%20%5Cfrac%7BR%7D%7B2%7D

Original area =http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_cm%20%5Ctiny%20%5Cprod%20R%5E%7B2%7D  and new area = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_cm%20%5Ctiny%20%5Cprod%28%5Cfrac%7BR%7D%7B2%7D%29%5E%7B2%7D%3D%5Cfrac%7B%5Cprod%20R%5E%7B2%7D%7D%7B4%7D

Decrease in area = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_cm%20%5Ctiny%20%5Cfrac%7B3%5Cprod%20R%5E%7B2%7D%7D%7B4%7D%5Ctimes%20%5Cfrac%7B1%7D%7B%5Cprod%20R%5E%7B2%7D%7D%5Ctimes%20100 = 75%

9. A sum of money lent at compound interest for 2 years at 20% per annum would fetch Rs.482 more, if the interest was payable half yearly than if it was payable annually . The sum is

|  |  |
| --- | --- |
| A) 10000 | B) 20000 |
| C) 40000 | D) 50000 |

Answer & Explanation Answer: B) 20000   
  
Explanation:

Let sum=Rs.x

C.I. when compounded half yearly = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%5B%20x%281+%5Cfrac%7B10%7D%7B100%7D%29%5E%7B4%7D-x%20%5Cright%20%5D%3D%5Cfrac%7B4641%7D%7B10000%7Dx

C.I. when compounded annually =http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%5B%20x%28%5Cfrac%7B20%7D%7B100%7D%29%5E%7B2%7D-x%20%5Cright%20%5D%3D%5Cfrac%7B11%7D%7B25%7Dx

http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Ctherefore%20%5Cfrac%7B4641%7D%7B10000%7Dx-%5Cfrac%7B11%7D%7B25%7Dx%3D482

=> x=20000

10. A tank is 25m long 12m wide and 6m deep. The cost of plastering its walls and bottom at 75 paise per sq m is

|  |  |
| --- | --- |
| A) Rs. 258 | B) Rs. 358 |
| C) Rs. 458 | D) Rs. 558 |

Answer & Explanation Answer: D) Rs. 558   
  
Explanation:

Area to be plastered = http://latex.codecogs.com/gif.latex?%5Cinline%20%5B2%28l&plus;b%29%5Ctimes%20h%5D&plus;%28l%5Ctimes%20b%29

=http://latex.codecogs.com/gif.latex?%5Cinline%20%5B2%2825&plus;12%29%5Ctimes%206%5D&plus;%2825%5Ctimes%2012%29%3D744%5C%3B%20sq%5C%3A%20m

Cost of plastering = http://latex.codecogs.com/gif.latex?%5Cinline%20744%5Ctimes%20%5Cfrac%7B75%7D%7B100%7D%3DRs.558

11. The present worth of Rs.169 due in 2 years at 4% per annum compound interest is

|  |  |
| --- | --- |
| A) Rs.156.25 | B) Rs.150 |
| C) Rs.140 | D) Rs125.25 |

Answer & Explanation Answer: A) Rs.156.25   
  
Explanation:

Present Worth

=http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfrac%7Bp%7D%7B%281&plus;%5Cfrac%7BR%7D%7B100%7D%29%5E2%7D

=http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfrac%7B169%7D%7B%281&plus;%5Cfrac%7B4%7D%7B100%7D%29%5E2%7D

= Rs.156.25

|  |  |
| --- | --- |
|  | 12. A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit? |
| |  |  |  |  | | --- | --- | --- | --- | |  | A) Rs. 18.20 |  | B) Rs. 70 | |  | C) Rs. 72 |  | D) Rs. 88.25 |   Answer & Explanation  Answer: Option C  Explanation:   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | C.P. = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 | x 392 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1000 | x 392 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 320 | | 122.5 | 1225 |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifProfit = Rs. (392 - 320) = Rs. 72. |

|  |  |
| --- | --- |
|  | 13. A car owner buys petrol at Rs.7.50, Rs. 8 and Rs. 8.50 per litre for three successive years. What approximately is the average cost per litre of petrol if he spends Rs. 4000 each year? |
| |  |  |  |  | | --- | --- | --- | --- | |  | A) Rs. 7.98 |  | B) Rs. 8 | |  | C) Rs. 8.50 |  | D) Rs. 9 |   Answer & Explanation  Answer: Option A  Explanation:   |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Total quantity of petrol consumed in 3 years | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 4000 | + | 4000 | + | 4000 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | litres | | 7.50 | 8 | 8.50 | | |  | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | = 4000 | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 2 | + | 1 | + | 2 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | litres | | 15 | 8 | 17 | | |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 76700 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | litres | | 51 | |   Total amount spent = Rs. (3 x 4000) = Rs. 12000.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifAverage cost = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 12000 x 51 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. | 6120 | = Rs. 7.98 | | 76700 | 767 | |

14. Rs. 5887 is divided between Shyam and Ram, such that Shyam's share at the end of 9 years is equal to Ram's share at the end of 11 years, compounded annually at the rate of 5%. Find the share of Shyam.

|  |  |
| --- | --- |
| A) 3567 | B) 3452 |
| C) 3087 | D) 3544 |

Answer & Explanation Answer: C) 3087   
  
Explanation:

Shyam's share \* (1+0.05)9 = Ram's share \* (1 + 0.05)11

Shyam's share / Ram's share = (1 + 0.05)11 / (1+ 0.05)9 = (1+ 0.05)2 = 441/400

Therefore Shyam's share = (441/841) \* 5887 = 3087

#### 15. An inspector rejects 0.08% of the meters as defective, How many meters he examine to reject 2 meteres

1. 1200
2. 2400
3. 1400
4. 2500

##### Answer And Explanation

**Answer:** Option **D**

**Explanation:**

It means that 0.08% of x = 2

=> () = 2

=> x =

=> x=2500

#### **16.** Find the average of all numbers between 6 and 34 which are divisible by 5

1. 15
2. 20
3. 25
4. 30

##### Answer And Explanation

**Answer:** Option **B**

**Explanation:**

Average = () = = 20

#### 17. A cyclist covers a distance of 750 meter in 2 minutes 30 seconds. What is the speed in km/hr of cyclist

1. 16 km/hr
2. 17 km/hr
3. 18 km/hr
4. 19 km/hr

##### Answer And Explanation

**Answer:** Option **C**

**Explanation:**

Speed =

Distance = 750meter

Time = 2 min 30 sec =150sec

Speed = = 5m/sec

=>5 185km/hr = 18km/hr

#### 18. If A:B = 2:3, B:C = 4:5 and C:D = 6:7, then find the value of A:B:C:D

1. 15:24:30:35
2. 16:24:30:35
3. 17:24:30:35
4. 18:24:30:35

##### Answer And Explanation

**Answer:** Option **B**

**Explanation:**

A:B = 2:3

B:C = 4:5 = ( 4: 5 ) = 3 :

C:D = 6:7 = ( 6: 7 )=:

A:B:C:D = 2:3::=16:24:30:35

**REASONING**

1. Find out the wrong number in the series.

7, 8, 18, 57, 228, 1165, 6996

|  |  |
| --- | --- |
| A) 8 | B) 18 |
| C) 57 | D) 228 |

Answer & Explanation Answer: D) 228   
  
Explanation:

Let the given numbers be A, B, C, D, E, F, G.

Then, A, A x 1 + 1, B x 2 + 2, C x 3 + 3, D x 4 + 4, E x 5 + 5, F x 6 + 6 are the required numbers.

Clearly, 228 is wrong.

2. 331, 482, 551, 263, 383, 362, 284

|  |  |
| --- | --- |
| A) 263 | B) 383 |
| C) 331 | D) 551 |

Answer & Explanation Answer: B) 383   
  
Explanation:

In each number except 383, the product of first and third digits is the middle one.

|  |
| --- |
| 3. QAR, RAS, SAT, TAU, \_\_\_\_\_ |
| |  |  |  |  | | --- | --- | --- | --- | |  | A) UAV |  | B) UAT | |  | C) TAS |  | D) TAT |   Answer & Explanation  **Answer:** Option **A**  **Explanation:**  In this series, the third letter is repeated as the first letter of the next segment. The middle letter, A, remains static. The third letters are in alphabetical order, beginning with R.  4. All snakes are trees.Some trees are roads.All roads are mountains.  **Conclusions:**           1. Some mountains are snakes           2. Some roads are snakes           3.Some mountains are trees     |  |  | | --- | --- | | A) Only 1 follows | B) Only 2 follows | | C) Only 3 follows | D) Both 1 and 2 follow |   Answer & Explanation Answer: C) Only 3 follows   Explanation:  All snakes are trees .Some trees are roads.  Since the middle term is not distributed even once in the premises,so no conclusion follows  Some trees are roads.All roads are mountains  Sinc eone primise is particular,the conclusion must be particularand should'nt contain the middle term.So,it follows that 'Some trees are mountains'.3 is the converse of this statement nd so it holds.  All snakes are trees .Some trees are mountains.  Sinc ethe middle term is not distributed even once in the preises,so no definite conclusion follows  5. At what angle the hands of a clock are inclined at 15 minutes past 5?   |  |  | | --- | --- | | A) 57.5 degrees | B) 67.5 degrees | | C) 77.5 degrees | D) 87.5 degrees |   Answer & Explanation Answer: B) 67.5 degrees   Explanation:  Angle traced by hour hand in http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cfrac%7B21%7D%7B4%7D hrs = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%28%20%5Cfrac%7B360%7D%7B12%7D%5Ctimes%20%5Cfrac%7B21%7D%7B4%7D%20%5Cright%20%29%5Eo =http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20157%5Cfrac%7B1%7D%7B2%7D%5Eo  Angle traced by min. hand in 15 min = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%28%20%5Cfrac%7B360%7D%7B12%7D%5Ctimes%2015%20%5Cright%20%29%5Eo = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%2090%5Eo  http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Ctherefore Required Angle = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%28157%5Cfrac%7B1%7D%7B2%7D%20%5Cright%20%29%5Eo-90%5E%7Bo%7D = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%2067%5Cfrac%7B1%7D%7B2%7D%5Eo     |  | | --- | | 6. Study the following figure and answer the questions given below.  http://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-8-Dir-1.png | | |  |  | | --- | --- | |  | How many educated people are employed ? | | |  |  |  |  | | --- | --- | --- | --- | |  | A) 9 |  | B) 18 | |  | C) 20 |  | D) 15 |   Answer & Explanation  **Answer:** Option **A**  **Explanation:**  Number of educated people who are employed = 3 + 6 = 9. | |   7. If he is intelligent,he will pass the examination  Assumptions:        1.To Pass,he must be intelligent        2.He will pass the examination   |  |  | | --- | --- | | A) Only 1 is true | B) Only 2 is true | | C) Either 1 or 2 is true | D) Neither 1 nor 2 is true |   Answer & Explanation Answer: A) Only 1 is true   Explanation:  The statement mentions that he will pass if he is intelligent.So,1 is implicit.further,this means that it is not necessary that he will pass.So, 2 is not implicit  8. I.  All the offices on the 9th floor have wall-to-wall carpeting.  II. No wall-to-wall carpeting is pink.  III.None of the offices on the 9th floor has pink wall-to-wall carpeting.  If the first two statements are true, the third statement is   |  |  | | --- | --- | | A) true | B) false | | C) uncertain | D) none |   Answer & Explanation Answer: A) true   Explanation:  If no wall-to-wall carpeting is pink and all the offices have wall-to-wall carpeting, none of the offices has pink wall-to-wall carpeting.  9. Insert the missing number.  2, 6, 12, 20, 30, 42, 56, (....)   |  |  | | --- | --- | | A) 61 | B) 64 | | C) 72 | D) 70 |   Answer & Explanation Answer: C) 72   Explanation:  The pattern is 1 x 2, 2 x 3, 3 x 4, 4 x 5, 5 x 6, 6 x 7, 7 x 8.  So, the next number is 8 x 9 = 72.  10. Find out the wrong number in the given sequence of numbers.  5, 16, 6, 16, 7, 16, 9   |  |  | | --- | --- | | A) 9 | B) 7 | | C) 6 | D) None of these |   Answer & Explanation Answer: A) 9   Explanation:  Terms at odd places are 5, 6, 7, 8 etc. and each term at even place is 16.  So, 9 is wrong.  11. Find the odd man out.  253, 136, 352, 324, 631, 244   |  |  | | --- | --- | | A) 324 | B) 136 | | C) 352 | D) 631 |   Answer & Explanation Answer: A) 324   Explanation:  The Sum of the digits in each number, Except 324 is 10.   |  |  | | --- | --- | |  | 12. JAK, KBL, LCM, MDN, \_\_\_\_\_ | | |  |  |  |  | | --- | --- | --- | --- | |  | A) OEP |  | B) NEO | |  | C) MEN |  | D) PFQ |   Answer & Explanation  **Answer:** Option **B**  **Explanation:**  This is an alternating series in alphabetical order. The middle letters follow the order ABCDE. The first and third letters are alphabetical beginning with J. The third letter is repeated as a first letter in each subsequent three-letter segment. | |

|  |
| --- |
| 13. Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali? |
| |  |  |  |  | | --- | --- | --- | --- | |  | A) Brother |  | B) Uncle | |  | C) Son |  | D) Data is inadequate |   Answer & Explanation  **Answer:** Option **A**  **Explanation:**  The man in the photograph is son of Anjali's grandfather's son i.e., the son of Anjali's father. Hence, the boy is the brother of Anjali. |

|  |
| --- |
| 14. In each of the following questions two statements are given and these statements are followed by two conclusions numbered (1) and (2). You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.  Give answer:   * (A) If only (1) conclusion follows * (B) If sonly (2) conclusion follows * (C) If either (1) or (2) follows * (D) If neither (1) nor (2) follows and * (E) If both (1) and (2) follow. |
| |  |  | | --- | --- | | 1. | **Statements:** Some actors are singers. All the singers are dancers.  **Conclusions:**   1. Some actors are dancers. 2. No singer is actor. | | |  |  | | --- | --- | |  | A) Only (1) conclusion follows | |  | B) Only (2) conclusion follows | |  | C) Either (1) or (2) follows | |  | D) Neither (1) nor (2) follows | |  | E) Both (1) and (2) follow |   Answer & Explanation  **Answer:** Option **A**  **Explanation:**  http://www.indiabix.com/_files/images/verbal-reasoning/syllogism/4-33-1-18.png | |

15. At what time between 2 and 3 o'clock will the hands of a clock be together?

|  |  |
| --- | --- |
| A) (9 + 10/11) min past 2 | B) (10 + 10/11) min past 2 |
| C) (11 + 10/11) min past 2 | D) (12 + 10/11) min past 2 |

Answer & Explanation Answer: B) (10 + 10/11) min past 2   
  
Explanation:

At 2 o'clock, the hour hand is at 2 and the minute hand is at 12, i.e. they are 10 min spaces apart.

To be together, the minute hand must gain 10 minutes over the hour hand.

Now, 55 minutes are gained by it in 60 min.

http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Ctherefore 10 minutes will be gained in http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%20%5Cleft%20%28%20%5Cfrac%7B60%7D%7B55%7D%5Ctimes%2010%20%5Cright%20%29 min. = http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%2010%5Cfrac%7B10%7D%7B11%7D min.

The hands will coincide at http://latex.codecogs.com/gif.latex?%5Cinline%20%5Cfn_jvn%2010%5Cfrac%7B10%7D%7B11%7D min. past 2.

**ENGLISH**

ANTONYMS

## 1.

## Last :

A. End

B. Grow

C. Diminish

D. Finish

## Answer & Solution

Answer: **Option B**

Solution:

**End, Diminish and Finish** are similar to last.  
  
**Grow** is correct.

## 2.

## Mighty :

A. Forcible

B. Forceful

C. Weak

D. Tough

E. Haughty

## Answer & Solution

Answer: **Option C**

Solution:

**Forcible :** done by force.  
  
**Forceful :** strong and assertive, vigorous and powerful.  
  
**Tough :** strong enough to withstand adverse conditions or rough handling.  
  
**Haughty :** arrogant or conceited  
  
**Mighty :** possessing great and impressive power or strength.  
  
So, opposite of Mighty is **Weak.**

## 3.

## Glory :

A. Splendour

B. Notoriety

C. Fame

D. Reputation

E. Debasement

## Answer & Solution

Answer: **Option E**

Solution:

**Splendour :** magnificent and splendid appearance, grandeur.  
  
**Notoriety :** the state of being famous or well known for some bad quality or deed.  
  
**Fame :** the state of being known by many people.  
  
**Reputation :** the beliefs or opinions that are generally held about someone or something.  
  
**Debasement :** reduce (something) in quality or value, degrade.  
  
**Glory :** high renown or honour won by notable achievements, upgrade.  
  
Correct antonym is **Debasement**.

SYNONYMS

## 4.

## CEASE:

A. Begin

B. Stop

C. Create

D. Dull

## Answer & Solution

Answer: **Option B**

Solution:

**Begin :** perform or undergo the first part of (an action or activity).  
  
**Create :** bring (something) into existence.  
  
**Dull :** lacking interest or excitement.  
  
**Stop :** come to an end, cease to happen.  
  
**Cease :** come to an end, cease to happen.  
  
Synonym of **Cease** is **Stop.**

## 5.

## PIOUS:

A. Religious

B. Sympathetic

C. Afraid

D. Faithful

## Answer & Solution

Answer: **Option A**

Solution:

**Religious :** relating to or believing in a religion.  
  
**Sympathetic :** feeling, showing, or expressing sympathy.  
  
**Afraid :** feeling fear or anxiety; frightened.  
  
**Faithful :** remaining loyal and steadfast.  
  
**Pious :** devoutly religious.  
  
Synonym of **Pious** is **Religious.**

## 6.

## CANCEL:

A. Abolish

B. Approve

C. Allow

D. Break

## Answer & Solution

Answer: **Option A**

Solution:

**Approve :** officially agree to or accept as satisfactory.  
  
**Allow :** let (someone) have or do something.  
  
**Break :** separate into pieces as a result of a blow, shock, or strain.  
  
**Abolish :** formally put an end to (a system, practice, or institution).  
  
**Cancel :** neutralize or negate the force or effect of .  
  
Synonym of **Cancel** is **Abolish.**

### Sentence Completion

## 7.

## More insurers are limiting the sale of property insurance in coastal areas and other regions \_\_\_\_\_\_\_ natural disasters.

A. safe from

B. according to

C. despite

D. prone to

## Answer & Solution

Answer: **Option D**

Solution: prone to

## 8.

## Roman Regions \_\_\_\_\_\_\_the Mountain\_\_\_\_\_\_\_of Masada for three years before they were able to seize it.

A. dissembled, bastion

B. assailed, symbol

C. besieged, citadel

D. honed, stronghold

## Answer & Solution

Answer: **Option C**

Solution: besieged, citadel

## 9.

## Unlike his calmer,more easygoing colleagues ,the senator was \_\_\_\_\_\_\_\_\_ ,ready to quarrel at the slightest provocation.

A. whimsical

B. irascible

C. gregarious

D. ineffectual

## Answer & Solution

Answer: **Option B**

Solution: irascible

### Common Error Detection

## 10.

## Either Nemmu or Mennu / are in the wrong; / both can / certainly never be.

A. Either Nemmu or Mennu

B. are in the wrong;

C. both can

D. certainly never be

E. No Error

## Answer & Solution

Answer: **Option B**

Solution: Change, are into is  
  
**When two or more than two subjects are joined by 'Either, or' 'Neither, nor', the verb agrees with the subject nearest to it.**

## 11.

## None of two girls / who were present / appeared to be inclined / to listen to sane advice.

A. None of two girls

B. who were present

C. appeared to be inclined

D. to listen to sane advice

E. No Error

## Answer & Solution

Answer: **Option A**

Solution: Change, None into Neither  
  
**None is used in reference for more than two. In reference to two 'neither' is used.**

## 12.

## Everyone knows / that the leopards is / faster / of all animals.

A. Everyone knows

B. that the leopards is

C. faster

D. of all animals

E. No Error

## Answer & Solution

Answer: **Option D**

Solution:

Change, of all animals → than any other animal  
  
**In a comparative degree THAN is used. Also, the term of comparison must exclude the things compared by use of OTHER.**

## 13.

## Find the correct spelt word.

A. Cacophone

B. Cacophoney

C. Cacophoni

D. Cacophony

## Answer & Solution

Answer: **Option D**

Solution: Cacophony

## 14.

## Find the correct spelt word.

A. Capricious

B. Cappricious

C. Caprisious

D. Carisuous

## Answer & Solution

Answer: **Option A**

Solution: Capricious

## 15.

## Find the correct spelt word.

A. Centrefuge

B. Centrifuse

C. Centifuse

D. Centrifuge

## Answer & Solution

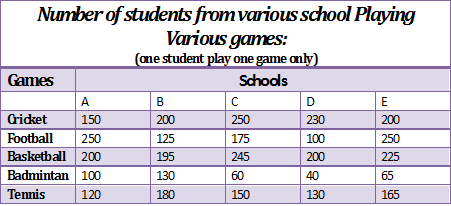
Answer: **Option D**

Solution:

Centrifuge.

# DATA INTERPRETATION

# Directions: (1-4) Study the following table and answer the question.



## 1.

## The difference between the total number of students playing Basketball from the all schools and the total number of students playing Cricket from all the schools is:

A. 27

B. 35

C. 28

D. 26

## Answer & Solution

Answer: **Option B**

Solution: Required difference,  
= (200+195+245+200+225)-(150+200+250+230+200)  
= 1065-1030  
=35

## 2.

## The number of students playing Football from School C is x per cent of the total number of students playing Football from all the schools x equals:

A. 19(7/9)

B. 19(4/9)

C. 18

D. 20(2/9)

## Answer & Solution

Answer: **Option B**

Solution: x= (175/900)\*100%  
x= 175/9 %   
x= 19(4/9)% .

## 3.

## Which school ha maximum number of players?

A. A

B. B

C. C

D. D

E. E

## Answer & Solution

Answer: **Option E**

Solution: Here,  
A=820, B=830, C=880, D=700 and E=905.   
Hence, The school, which has the maximum number of players is E.

## 4.

## The number of students playing Badminton from School E is x% of the students playing Badminton From School B. Then x equal:

A. 40

B. 42

C. 50

D. 41

## Answer & Solution

Answer: **Option C**

Solution: x% of 130= 65  
→ (x\*130)/100= 65  
Thus, x= 50.