**ACTUARIAL SCIENCE**

**(ACET)**

**MOCK TEST**

**PAPER IV**

**BY**

**SOURAV SIR’S CLASSES**

**KOLKATA & NEW DELHI**

#### 1. A man is walking at the rate of 5 km/hr crosses a bridge in 15 minutes. The length of the bridge is

1. 1000 meters
2. 1050 meters
3. 1200 meters
4. 1250 meters

##### Answer And Explanation

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

**Explanation:**

We need to get the answer in meters. So we will first of change distance from km/hour to meter/sec by multiplying it with 5/18 and also change 15 minutes to seconds by multiplying it with 60.

Speed = 5518=2518m/sec

Time = 1560seconds = 900seconds

Distance = Time Speed

Distance = 900=1250meter

#### 2. If the cost price is 25% of selling price. Then what is the profit percent.

1. 150%
2. 200%
3. 300%
4. 350%

##### Answer And Explanation

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

**Explanation:**

Let the S.P = 100  
then C.P. = 25  
  
Profit = 75  
  
Profit% = 75/25 100 = 3005

#### 3. A does a work in 10 days and B does the same work in 15 days. In how many days they together will do the same work ?

1. 5 days
2. 6 days
3. 7 days
4. 8 days

##### Answer And Explanation

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

**Explanation:**

Firstly we will find 1 day work of both A and B, then by adding we can get collective days for them,   
So,  
A's 1 day work = 1/10  
B's 1 day work = 1/15  
  
(A+B)'s 1 day work =

( +) = ()

=

#### 4. Find the simple interest on Rs 7000 at 50/3 % for 9 months

1. Rs. 1075
2. Rs. 975
3. Rs. 875
4. Rs. 775

##### Answer And Explanation

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

**Explanation:**

S.I. =

So, by putting the values in the above formula, our result will be.

Required result =  = 875

#### 5. If Kamal says, "Ravi's mother is the only daughter of my mother", how is Kamal related to Ravi ?

1. Brother
2. Father
3. Maternal Uncle
4. Cousin

##### Answer And Explanation

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

**Explanation:**

Only daughter of my mother = Kamal Sister  
  
Kamal Sister is Ravi's Mother  
  
So Kamal is maternal uncle of Ravi

#### 6. Half of 1 percent written as decimal is

1. 5
2. 0.5
3. 0.05
4. 0.005

##### Answer And Explanation

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

**Explanation:**

It will be 1/2(1%) = 1/2(1/100) = 1/200 = 0.005

#### 7. 4 men and 6 women finish a job in 8 days, while 3 men and 7 women finish it in 10 days. In how many days will 10 women working together finish it ?

1. 30 days
2. 40 days
3. 50 days
4. 60 days

##### Answer And Explanation

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

**Explanation:**

Let 1 man's 1 day work = x   
and 1 woman's 1 days work = y.   
Then, 4x + 6y = 1/8   
and 3x+7y = 1/10   
solving, we get y = 1/400 [means work done by a woman in 1 day]  
  
10 women 1 day work = 10/400 = 1/40   
  
10 women will finish the work in 40 days

#### 8. A man gains 20% by selling an article for a certain price. If he sells it at double the price, the percentage of profit will be.

1. 130%
2. 140%
3. 150%
4. 160%

##### Answer And Explanation

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

**Explanation:**

Let the C.P. = x,  
Then S.P. = (120/100)x = 6x/5  
New S.P. = 2(6x/5) = 12x/5  
  
Profit = 12x/5 - x = 7x/5   
  
Profit% = (Profit/C.P.) 100   
=> (7x/5) (1/x) 100 = 140 %

#### 9. At 5% per annum simple interest, Rahul borrowed Rs. 500. What amount will he pay to clear the debt after 4 years

1. 750
2. 700
3. 650
4. 600

##### Answer And Explanation

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

**Explanation:**

We need to calculate the total amount to be paid by him after 4 years, So it will be Principal + simple interest.  
  
So,

* 500+
* Rs.600

#### 10. Average of all prime numbers between 30 to 50

1. 37
2. 37.8
3. 39
4. 39.8

##### Answer And Explanation

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

**Explanation:**

Prime numbers between 30 and 50 are:  
31, 37, 41, 43, 47  
  
Average of prime numbers between 30 to 50 will be

() = = 39.8

#### 11. If 2 : 9 :: x : 18, then find the value of x

1. 2
2. 3
3. 4
4. 6

##### Answer And Explanation

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

**Explanation:**

Treat 2:9 as 2/9 and x:18 as x/18, treat :: as =  
  
So we get 2/9 = x/18  
=> 9x = 36   
=> x = 4

#### 12. What is the present worth of Rs. 132 due in 2 years at 5% simple interest per annum

1. 110
2. 120
3. 130
4. 140

##### Answer And Explanation

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

**Explanation:**

Let the present worth be Rs.x  
Then,S.I.= Rs.(132 - x)  
  
=› (x52/100) = 132 - x  
  
=› 10x = 13200 - 100x  
  
=› 110x = 13200  
  
x= 120

## 13.

## In how many ways can six different rings be worn on four fingers of one hand?

A. 10

B. 12

C. 15

D. 16

## Answer & Solution

Answer: **Option C**

Solution:

Required number of ways,  
= 6C4   
= (6 \*5) /2 = 15 ways.

## 14.

## The speed of the train going from Nagpur to Allahabad is 100 km/h while when coming back from Allahabad to Nagpur, its speed is 150 km/h. find the average speed during whole journey.

A. 125 km/hr

B. 75 km/hr

C. 135 km/hr

D. 120 km/hr

## Answer & Solution

Answer: **Option D**

Solution:

Average speed,

= (2\*x\*y)/(x+y)

= (2\*100\*150)/(100+150)

= (200\*150)/250

= 120 km/hr.

## 15. If 4 (P's Capital ) = 6 ( Q's Capital ) = 10 ( R's Capital ) , then out of the total profit of Rs 4650 , R will receive

A. Rs. 600

B. Rs. 700

C. Rs. 800

D. Rs. 900

## Answer & Solution

Answer: **Option D**

Solution: Let   
P's capital = p,   
Q's capital = q and   
R's capital = r.  
Then  
  
4p = 6q = 10r  
=> 2p = 3q = 5r  
=>q = 2p/3  
r = 2p/5  
P : Q : R = p : 2p/3 : 2p/5  
= 15 : 10 : 6  
R's share = 4650 \* (6/31) = 150\*6 = Rs. 900.

## 16.An alloy contains zinc, copper and tin in the ratio 2:3:1 and another contains copper, tin and lead in the ratio 5:4:3. If equal weights of both alloys are melted together to form a third alloy, then the weight of lead per kg in new alloy will be:

A. 1/2 kg

B. 1/8 kg

C. 3/14 kg

D. 7/9 kg

## Answer & Solution

Answer: **Option B**

Solution: Ratio of Zinc, Copper and Tin is given as,  
Z : C : T = 2 : 3 : 1.  
Now, let the first alloy be 12 kg (taken as 4 kg Zinc, 6 kg Copper and 2 Kg Lead). Weight of second alloy = 12 kg as, C : T : L = 5 : 4 : 3. (taken as 5 kg Copper, 4 kg Tin and 3 Kg Lead.)  
Alloys are mixed together to form third alloy. Then the ratio of content in it,  
Z : C : T : L = 4 : (6+5) : (2+4) : 3   
Weight of third alloy = 12+12 = 24 Kg.  
So, weight of the Lead = 3/24 = 1/8 kg.

## 17. How many terms are there in the GP 5, 20, 80, 320........... 20480?

A. 5

B. 6

C. 8

D. 9

E. 7

## Answer & Solution

Answer: **Option E**

Solution: Common ratio, r = 20/5 = 4;  
Last term or nth term of GP = arn-1.  
20480 = 5\*(4n-1);  
Or, 4n-1 = 20480/5 = 48;  
So, comparing the power,   
Thus, n-1 = 8;  
Or, n = 7;  
Number of terms = 7.

## 18. There are five women and six men in a group. From this group a committee of 4 is to be chosen. How many different ways can a committee be formed that contain three women and one man?

A. 55

B. 60

C. 25

D. 192

## Answer & Solution

Answer: **Option B**

Solution:

Since, no order to the committee is mentioned, a combination instead of a permutation is used.  
Let's sort out what we have and what we want.  
Have: 5 women, 6 men.  
Want: 3 women **AND** 1 man.  
The word AND means multiply.  
Woman and Men  
  
haveCwant \*haveCwant   
  
=> 5C3 \*6C1,  
= 60.

**REASONING**

#### **1.** Pointing towards a person in a photograph, Anjali said, "He is the only son of the father of my sister's brother." How is that person is related to Anjali ?

1. Anjali Father
2. Anjali Mother
3. Anjali Brother
4. Maternal Uncle

##### Answer And Explanation

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

**Explanation:**

Relation's given in the question may be analysed as follows :  
Sister's brother - brother;  
Brother's father - father;  
Father's son - brother;  
  
So he is Anjali Brother.   
  
Note: It is more handy to solve the question when we start from end to analyse the relation as we did above.

#### 2. Fear : Threat :: Anger : ?

1. Compulsion
2. Panic
3. Provocation
4. Force

##### Answer And Explanation

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

**Explanation:**

First arises from second.

#### 3. If in a certain language, COUNSEL is coded as BITIRAK, how is GUIDANCE written in that code ?

1. EOHYZJBB
2. FOIYZJBB
3. FOHYZJBB
4. None of above

##### Answer And Explanation

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

**Explanation:**

The letters at odd positions are each moved one step backward, while the letters at even positions are respectively moved six, five, four, three, two,... steps backward to obtain the corresponding letters of the code.

#### 4. If Kamal says, "Ravi's mother is the only daughter of my mother", how is Kamal related to Ravi ?

1. Brother
2. Father
3. Maternal Uncle
4. Cousin

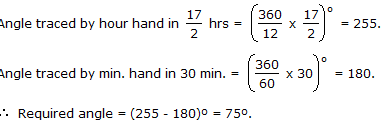
##### Answer And Explanation

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

**Explanation:**

Only daughter of my mother = Kamal Sister  
  
Kamal Sister is Ravi's Mother  
  
So Kamal is maternal uncle of Ravi

|  |
| --- |
| 5. The angle between the minute hand and the hour hand of a clock when the time is 8.30, is: |
| |  |  |  |  | | --- | --- | --- | --- | |  | 1. 80º |  |  | |  | 1. 75º |  |  | |  | 1. 60º | |  | 1. 105º |   Answer & Explanation  Answer: Option B  Explanation: |



|  |
| --- |
| 6. Choose the alternative which is closely resembles the mirror image of the given combination. http://www.indiabix.com/_files/images/non-verbal-reasoning/mirror-images/section-1/20.png |
| |  |  |  |  | | --- | --- | --- | --- | |  | 1. 1 |  |  | |  | 1. 2 |  |  | |  | 1. 3 | |  | 1. 4 |   Answer & Explanation  Answer: Option D |

#### 7. Pointing to a gentleman, Shalini said, "His only brother is the father of my son’s father." How is the gentleman related to Shalini ?.

1. Grandfather
2. Uncle
3. Brother
4. Father

##### Answer And Explanation

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

**Explanation:**

Analysis of Blood Relation:  
  
Father of my son’s father -> Shalini's Father in law  
Shalini's Father-in-law brother -> Shalini's Uncle

#### 8. In a certain code, SIKKIM is written as THLJJL, how is TRAINING written in that code?

1. SQBHOHOF
2. UQBHOIOF
3. UQBHOHOI
4. UQBHOHOF

##### Answer And Explanation

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

**Explanation:**

In given word, word is increasing and decreasing by one alternatively as,  
S +1 T  
I -1 H  
K +1 L  
K -1 J  
I +1 J  
M -1 L  
  
So in the same way TRAINING will be UQBHOHOF

#### 9. In a certain code, TOGETHER is written as RQEGRJCT. In the same code, PAROLE will be written as,

1. RYPQJG
2. RCPQJG
3. NCPQJG
4. NCPQJC

##### Answer And Explanation

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

**Explanation:**

The letters at the odd positions are moved two steps backward and the letters at even positions are moved two steps forward to get the value.  
  
So PAROLE will be NCPQJG

#### **10.** Flower : Bud :: Plant : ?

1. Twig
2. Seed
3. Taste
4. Flower

##### Answer And Explanation

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

|  |
| --- |
| 11. Choose the alternative which is closely resembles the water-image of the given combination. http://www.indiabix.com/_files/images/non-verbal-reasoning/water-images/section-1/24.png |
| |  |  |  |  | | --- | --- | --- | --- | |  | 1. 1 |  |  | |  | 1. 2 |  |  | |  | 1. 3 | |  | 1. 4 |   Answer & Explanation  Answer: Option D |

|  |  |
| --- | --- |
|  | 12. How many times are the hands of a clock at right angle in a day? |
| |  |  |  |  | | --- | --- | --- | --- | |  | 1. 22 |  |  | |  | 1. 24 |  |  | |  | 1. 44 | |  | 1. 48 |   Answer & Explanation  Answer: Option C  Explanation:  In 12 hours, they are at right angles 22 times.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifIn 24 hours, they are at right angles 44 times. |

#### 13. If COOL is coded as DQRP, then write the code for HOT

1. JQW
2. IQW
3. IQX
4. IPW

##### Answer And Explanation

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

**Explanation:**

In COOL, first letter is increased by 1, second by 2, third by 3 and so on.  
  
So HOT will be coded as,  
H+1 I  
O+2 Q  
T+3 W  
  
So it will be IQW

#### 14. Video : Cassette :: Computer : ?

1. Reels
2. Recordings
3. Files
4. Floppy

##### Answer And Explanation

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

15.

|  |
| --- |
| How many times in a day, the hands of a clock are straight? |
| |  |  |  |  | | --- | --- | --- | --- | |  | 1. 22 |  |  | |  | 1. 24 |  |  | |  | 1. 44 | |  | 1. 48 |   Answer & Explanation  Answer: Option C  Explanation:  In 12 hours, the hands coincide or are in opposite direction 22 times.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifIn 24 hours, the hands coincide or are in opposite direction 44 times a day. |

**ENGLISH**

**ENGLISH**

ANTONYMS

## 1. Frugal :

A. Extravagant

B. Rich

C. Miserable

D. Happy

## Answer & Solution

Answer: **Option A**

Solution:

**Rich :** having a great deal of money or assets, wealthy.  
  
**Miserable :** wretchedly unhappy or uncomfortable.  
  
**Happy :** feeling or showing pleasure or contentment.  
  
**Extravagant :** lacking restraint in spending money or using resources.  
  
**Frugal :** sparing or economical as regards money or food, thrifty, prudent.  
  
Antonym of **Frugal** is **Extravagant.**

## 

## 2. Permit :

A. Give

B. Forbid

C. Allow

D. Preserve

## Answer & Solution

Answer: **Option B**

Solution:

**Give :** freely transfer the possession of (something) to (someone).  
  
**Allow :** permit.  
  
**Preserve :** maintain (something) in its original or existing state.  
  
**Forbid :** refuse to allow.  
  
**Permit :** Allow.  
  
Antonym of **Permit** is **Forbid.**

## 3. Consolidate :

A. Weaken

B. Expand

C. Destroy

D. Build

## Answer & Solution

Answer: **Option A**

Solution:

**Expand :** become or make larger or more extensive.  
  
**Destroy :** end the existence of (something) by damaging or attacking it.  
  
**Build :** construct (something) by putting parts or material together.  
  
**Weaken** make or become weaker in power, resolve, or physical strength.  
  
**Consolidate :** make (something) physically stronger or more solid.  
  
Antonym of **Consolidate** is **Weaken.**

SYNONYMS.

## 4. SHOWY :

A. Rowdy

B. Hungry

C. Greedy

D. Gaudy

## Answer & Solution

Answer: **Option D**

Solution:

**Rowdy :**noisy and disorderly.  
  
**Hungry :**feeling or displaying the need for food.  
  
**Greedy :**having or showing an intense and selfish desire for something, especially wealth or power.  
  
**Gaudy :**extravagantly bright or showy, typically so as to be tasteless  
  
**Showy :**having a striking appearance or style, typically by being excessively bright, colorful, or ostentatious.  
  
Synonym of **Showy** is **Gaudy.**

## 

## 5. ANNIHILATE :

A. Destroy

B. Entrain

C. Forward

D. testify

## Answer & Solution

Answer: **Option A**

Solution:

**Entrain :**climb, ascend, climb up, entrain, board, mount.  
  
**Forward :**toward the front; in the direction that one is facing or traveling.  
  
**Testify :**give evidence as a witness in a law court.  
  
**Destroy :**put an end to the existence of (something) by damaging or attacking it.  
  
**Annihilate :**destroy utterly obliterate.  
  
Synonym of **Annihilate** is **Destroy.**

## 6. PACIFY :

A. Gather

B. Allot

C. Calm

D. Remit

## Answer & Solution

Answer: **Option C**

Solution:

**Gather :**come together; assemble or accumulate.  
  
**Allot :**give or apportion (something) to someone as a share or task.  
  
**Remit :**cancel or refrain from exacting or inflicting (a debt or punishment).  
  
**Calm :**not showing or feeling nervousness, anger, or other emotions.  
  
**Pacify :** calm.  
  
Synonym of **Pacify** is **Calm.**

### Sentence Completion

## 7. Lord Buddha ......... his kingship and become a hermit.

A. Abolished

B. Abated

C. Abdicated

D. Abandoned

## Answer & Solution

Answer: **Option C**

Solution: The correct answer is **Abdicated.**

## 8. This is a ............... on his character.

A. Blot

B. Blur

C. Slur

D. Spot

E. Mark

## Answer & Solution

Answer: **Option C**

Solution: The correct option is **Slur.**  
Speak (words) indistinctly so that the sounds run into one another.  
  
**Other uses of slur:**  
  
He was slurring his words like a drunk.  
  
His speech was beginning to slur

## 9. We didn't ....... the programme to be such a huge success.

A. Accept

B. Except

C. Expect

D. Access

## Answer & Solution

Answer: **Option D**

Solution: We didn't **access** the programme to be such a huge success.

### Common Error Detection

## 10. I'll go with you / as long as/ I won't have to sing.

A. I'll go with you

B. as long as

C. I won't have to sing

D. No error

## Answer & Solution

Answer: **Option C**

Solution: Change, I won't have to sing → I don't have to sing.   
  
'as long as' is usually followed by a clause in the present tense when the preceding clause is in the future tense.

## 

## 11. She'll pay you / as soon as she / receive the parcel.

A. She'll pay you

B. as soon as she

C. receive the parcel

D. No error

## Answer & Solution

Answer: **Option C**

Solution: Change, receive the parcel → receives the parcel.  
  
'as long as' is usually followed by a clause in the present tense when the preceding clause is in the future tense.

## 

## 12. I don't have a car / and I don't want / one as well.

A. I don't have a car

B. and I don't want

C. one as well

D. No error

## Answer & Solution

Answer: **Option C**

Solution: Change, one as well → one either .  
  
In a negative clause use either and don't use "not too/ also/ as well ".

## 13. Find correctly spelt word.

A. Bureacracy

B. Bereaucracy

C. Buereacracy

D. Bureaucracy

[Answer & Solution](javascript:void(0);) [Discuss in Board](http://www.examveda.com/find-correctly-spelt-word-1083) [Share](http://www.facebook.com/share.php?u=http://www.examveda.com/find-correctly-spelt-word-1083)

## Answer & Solution

Answer: **Option D**

Solution: Bureaucracy

## 

## 14. Find correctly spelt word.

A. Millionair

B. Millionnaire

C. Milionaire

D. Millionaire

## Answer & Solution

Answer: **Option D**

Solution: Millionaire

## 

## 15. Find the correctly spelt word.

A. Sychological

B. Psychological

C. Psykological

D. Sykological

## Answer & Solution

Answer: **Option B**

Solution:

Psychological.

**DATA INTERPRETATION**

# Directions (1-5): Study the graph and answer the questions:



## 1.

## What was the overall average expenditure of Company C in all the years together?

A. Rs. 190 lakhs

B. Rs. 120 lakhs

C. Rs. 180 lakhs

D. Rs. 150 lakhs

## Answer & Solution

Answer: **Option C**

Solution: Reqd. average expenditure,  
= (200+250+210+100+140)/5  
= Rs. 180 lakhs.

## 2.

## What was the difference between the total expenditure of company B in the year 2006 and 2008 together and the total expenditure of company C in the year 2007 and 2009 together?

A. Rs. 1000000

B. Rs. 100000

C. Rs. 10000000

D. Rs. 100000000

## Answer & Solution

Answer: **Option A**

Solution: Reqd. difference,  
=Rs. [(190+170)-(210+140)] lakh  
= Rs. [360-350] =10 lakh  
= Rs. 1000000.

## 3.

## What was the respective ratio between the expenditure of company A in the year 2009 and expenditure of company B in the year 2005?

A. 5:3

B. 3:4

C. 3:5

D. 3:2

## Answer & Solution

Answer: **Option D**

Solution: Reqd. Ratio,  
= 210:140  
= 3:2

## 4.

## In which year was the total expenditure by all three Companies together second highest?

A. 2005

B. 2006

C. 2007

D. 2008

E. 2009

## Answer & Solution

Answer: **Option B**

Solution: Total expenditure of 3 companies in 2005,  
= (80+140+200)  
= Rs. 420 lakh Total expenditure of 3 companies in 2006,  
= (100+190+250)  
= Rs. 540 lakh  
Total expenditure of 3 companies in 2007,  
= Rs. 580 lakh  
Total expenditure of 3 companies in 2008,  
= Rs. 470 lakh  
Total expenditure of 3 companies in 2009,  
= Rs. 530 lakh  
The reqd. answer is 2006.

## 5.

## Total expenditure of all three companies together in the year 2006 was what percentage of the total expenditure of company A overall the year together?

A. 75

B. 72

C. 65

D. 60

## Answer & Solution

Answer: **Option A**

Solution: Reqd. percentage,  
= {(100+190+250)/(80+100+130+200+210)} \*100  
= 75%