2025_Hexaware_Actual_Test_14

Test Summary

- No. of Sections: 2
- No. of Questions: 90
- Total Duration: 90 min

Section 1 - Aptitude

Section Summary

- No. of Questions: 60
- Duration: 60 min

Additional Instructions:

None

Q1. Find the HCF of 2/3, 4/9, 8/27.

- $\frac{2}{27}$
- $\frac{8}{3}$
- $\frac{2}{3}$
- $\frac{8}{27}$

Q2. What is the remainder when 120! is divided by 120^{24}?

- 2
- 1
- 0
- 3

Q3. A farmer buys 240 cows. He sells some of them at a gain of 20% and the remaining at a gain of 30%. If he gains 28% on the whole, then how many did he sell at a gain of 20%?

- 40
- 48
- 54

28

Q4. If Kannan spends 20% more than Surendar, he spends ____% less than Kannan.

16.67%

25%

20%

None of these

Q5. A shopkeeper purchased 120 pens (some are red and the remaining are blue). Red pens are sold at 15% profit while blue pens are sold at 10% loss and the total percent earned is 8.75%, then what is the difference between red and blue pen purchased by the shopkeeper?

45

60

70

75

Q6. If a toy is sold at a 10% discount then the amount gained is Rs 80. If the toy is sold at a 5% discount then the amount gained is Rs.100.What is the marked price of 2 toys in total?

250

300

600

800

Q7. Kiran, Vishal, and Dinesh work in a juice factory. Kiran takes 2 hours to extract as much juice as Vishal can in 3 hours. Dinesh takes 5 hours to extract as much juice as Kiran extracts in 4 hours. A tank can be filled with juice in 48 hours if all of them work together. How long will it take to fill the tank, if Dinesh alone is trying to fill the tank?

132 hrs

148 hrs

140 hrs

135 hrs

Q8. Arun can do a piece of work in 10 days, Bala in 15 days. They work together for 5 days, the rest of the work is finished by Chitra in two more days. If they get Rs. 6000 as wages for the whole work, what are the daily wages of Arun, Bala, and Chitra respectively (in Rs)?

600, 400, 500

200, 300, 400

500, 300, 400

600, 500, 300

Q9. Two trains pass each other on parallel lines. Each train is 100 metres long. When they are going in the same direction, the faster one takes 60 seconds to pass the other completely. If they are going in opposite directions they pass each other completely in 10 seconds. Find the speed of the slower train in km/hr.

15 km/hr

30 km/hr

45 km/hr

60 km/hr

Q10. A bus covers a distance in 15 minutes. If it runs at an average speed of 90 kmph, then the speed at which the bus should run to increase the time of journey to 1 hour 30 minutes will be _____.

6 kmph

3kmph

4 kmph

15 kmph

Q11. The resultant price of a mixture of golden rice is Rs. 480 per kg. This mixture is made from two varieties of golden rice which are having a price of Rs. 420 per kg and Rs. 520 per kg. What should be the ratio of quantities of both types of golden rice?

1:3

1:2

2:1

2:3

Q12. The sum of the two numbers is 20 and their difference is 2.5. Find the ratio of the numbers.

9 : 7

2 : 4

18 : 2.5

2 : 18

Q13. Rs.100 doubled in 5 years when compounded annually. How many more years will it take to get another Rs.200 compound interest?

5

6

8

10

Q14. A bank offers two different schemes at the same rate of interest for investment. A woman chose scheme II to invest a sum of money but due to a fall in the interest rate from 13% to 12 1/2%. her yearly income diminished by ₹104. Calculate the compound interest on the same amount for 2 years at the same rate if she invested in the scheme I.

5757

5762

5759.52

5552.75

Q15. In a class, 40% of the students study math and science. 60% of the students study math. What is the probability of a student studying science given he/she is already studying math?

- 0.54
- 0.12
- 0.3
- 0.67

Q16. A bag contain 2 red, 3 blue and 6 green marbles. One plate is taken up randomly .What is the probability that it is neither red nor green?

- 11/3
- 3/11
- 1/11
- 1/3

Q17. A “necklace” is a circular string with several beads on it. It is allowed to rotate a necklace but not to turn it over. How many different necklaces can made using 13 different beads?

- 13!
- 13!/2
- 12!
- 12!/2

Q18. Find the sum of the series up to infinity 1, 1/3, 1/9, 1/27,1/81 ….

- infinity
- 3/2
- 1
- 2/3

Q19. A small confectioner bought a certain number of pastries flavored with pineapple, mango, and black forest from the bakery, giving for each pastry as many rupees as there was pastry of that kind; altogether he bought 23 pastries and spent Rs. 211; find the number of each kind of pastry that he bought, if mango pastry is cheaper than pineapple pastry and dearer than black-forest pastry.

(10, 9, 4)

(11, 9, 3)

(10, 8, 5)

(11, 8, 4)

Q20. The average mark obtained in a class of 71 students is 48. If the average of the first 59 students is 46 and that of the last 11 is 52. Find the 60th student's mark.

122

132

128

134

Q21. Find the missing term in the series:
1, 3, 2, 6, 3, 11, 4, 18, 5,?

25

23

27

29

Q22. **Find the next term in the following series:**

35.6, 34.4, 32, 28.4, 23.6,?

117.6

1.76

17.6

18

Q23. R's son is cousin of son of S. If S has no brother, what is R to S?

Sister

Brother

Son

Mother

Q24. Neelam, who is Rohit's daughter, says to Indu," Your mother Reeta is the youngest sister of my father, who is the third child of Sohanji." How is Sohanji related to Indu?

Maternal uncle

Father

Grand father

Father-in-law

Q25. B is the father of Q. B has only two children. Q is the brother of R. R is the daughter of P. A is the granddaughter of P. S is the father of A. How is S related to Q?

Son

Son-in-law

Brother

Brother-in-law

Q26. **Find which of the following conclusions is correct as per the given statements:**

Statements:
Some box is pot.
No pot is sweet.
All sweets are Milk.

Conclusions:
I. Some boxes are not sweets is a possibility.
II. Some pots can be Milk is a possibility.
III. Some Milk is not pot is a possibility.

If only conclusion II follows

If both conclusions I and III follows

If both conclusions I and II follows

If all conclusions follows

Q27. In the question below are given two or three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the statements, disregarding commonly known facts. Give answer

Statements: Some gates are houses. All houses are ducks.
Conclusions:
I. All ducks are houses.
II. Some ducks are houses.

If only conclusion I follows.

If only conclusion II follows.

If either I or II follows.

If neither I nor II follows.

Q28. The question below consists of a question and two statements numbered A and B given below it. You have to decide whether the data provided in the statements are sufficient to answer the questions. Read both the statements and give an answer.

If k and n are integers, is n divisible by 7?
(A) n – 3 = 2k
(B) 2k – 4 is divisible by 7.

if statement (A) alone is sufficient to solve the question, but statement (B) alone is not. c

if statement (B) alone is sufficient to solve the question, but statement (A) alone is not.

if neither statement (A) nor statement (B) is individually sufficient to solve the question, but a combination of both is sufficient to solve the question.

if both the statements(A) and (B) are individually sufficient to solve the question.

if both the statements taken together are not sufficient and more information is required to solve the question.

Q29. Two statements numbered I and II are given below. You have to decide whether the data provided in the statements are sufficient to answer the question.

Six persons M, N, O, P, Q, and R were seated in a straight row facing north. Who was seated 2nd to the left of N?

Statements:
I. P was seated 2nd to the left of Q and 3rd to the right of O. R was to the immediate left of M.
II. O was 2nd to the left of M who was the neighbor of the one who is 2nd to the left of Q. P was to the immediate left of N.

If the data in statement I alone are sufficient to answer the question while data in statement II alone is not sufficient.

If the data in statement II alone is sufficient to answer the question while the data in statement I alone is not sufficient.

If the data in both statements I and II together are not sufficient to answer the question

If the data either in statement I alone or in statement II alone is sufficient to answer the question.

If the data in both statements I and II together are necessary to answer the question

Q30. **In these questions, a relationship between different elements is shown in the statements. The statements are followed by two conclusions. Give answer**

Statements:
Q = S > T > Z; T > Y = H < I

Conclusions:
I. Z > H
II. I > Z

If only conclusion I follows

If only conclusion II follows

If either conclusion I or II follows

If neither conclusion I nor II is true.

If both conclusion I and II are true.

Q31. **In each of the following questions relationship between different elements is shown in the statements. The statements are followed by two conclusions numbered I and II. Study the conclusions based on the given statements and select the appropriate answer.**

Statements: R ≤ K ≤ H = O ≥ D > Q; K > P

Conclusions:
I. K < Q
II. D ≥ P

if only conclusion I is true

if only conclusion II is true

if both conclusion I and II are true

if either conclusion I or conclusion II is true

if neither conclusion I nor conclusion II is true

Q32. Select the related letters from the given alternatives.
PRLN : XZTV :: JLFH : ?

NPRT

NRPT

NTRP

RTNP

Q33. According to a code: 'Pon con non bon' means 'some persons are cheats', 'fon pon gon hon' means 'cheats can be dangerous', 'lon kon fon con' means 'Dangerous persons might kill', 'bon gon hon kon' means, 'some probably can kill'. The codes for 'some dangerous cheats' would be

kon bon hon

hon yon fon

bon fon pon

kon bon pon

Q34. In a certain code language, if the word CIRCUMSTANCE is coded as CRUSACICMTNE, then how is the word HAPPINESS coded in that language ?

HPEISAPNS

HPISEAPNS

HPIESPANS

HPIESAPNS

Q35. Priya travels 5 km East and then 15 km towards her right. She then travels 12 km to her left and then 8 km towards her right. Finally she traveled 6 km by turning 180° and then stops. How far is she from the starting point in vertical direction?

29 km

21 km

17 km

23 km

Q36. **Choose the appropriate preposition to complete the sentence.**

_____ year 1947, India became an independent country.

- In
- From
- With
- To

Q37. **Fill in the blank(s) with the most suitable option.**

She brought her children _____on her own after the divorce.

- in
- up
- out
- None of the mentioned options

Q38. **Complete the following sentence by choosing the right option.**

Venice is famous _____ its canals

- about
- in
- with
- for

Q39. **In each of the following sentences a part of the sentence is underlined. Beneath each sentence, four different ways of phrasing the underlined part are indicated. Choose the best alternative among the four.**

My sister can't play the guitar like she did before the accident.

- guitar like she, did
- guitar as she did

guitar, like she did

guitar, as, she did

Q40. **The question consists of four sentences on a topic. Some sentences are grammatically incorrect or inappropriate. Identify the incorrect sentence or sentences:**

A. The most tangible cost of modernization is environment.
B. From the summit of Yu Shan to the coastal crags of Lungtung the landscape looks like one big polluted nest.
C. "Taiwan is filthy rich", as a Taiwanese friend put it.
D. "And you've got to spend some of it on environment".

Only A

A and B

Only C

C and D

Q41. **Read the following group of sentences. The 1st and the last sentences are numbered 1 and 6. The rest are numbered P, Q, R, and S. Arrange these four sentences in proper order to form a meaningful paragraph/sentence.**

1. Civilization is based on a clearly defined and widely accepted yet often unarticulated hierarchy.
P. Violence done by those lower on the hierarchy to those higher is unthinkable
Q. Violence done by those higher on the hierarchy to those lower is nearly always invisible, that is, unnoticed.
R. When it is noticed, it is fully rationalized.
S. When it does occur it is regarded with shock, horror, and the fetishization of the victims.
6. The classification in society is a menace to mankind.

QSPR

QRPS

SRQP

PSRQ

Q42. **In the following question, statements 1 and 6 are respectively the first and the last sentences of a paragraph, and statements A, B, C, and D come in between them. Rearrange A, B, C, and D in such a way that they make a coherent paragraph together with statements 1 and 6. Select the correct order from the given choices and mark its number as your answer.**

1. Official attitudes towards ethnic Indians living abroad have changed over the years.
A. They found it difficult to make a livelihood here.
B. There was a time when the Indian government tended to look down upon them with a certain degree of contempt.
C. Quite a few went as indentured laborers, which was only a slightly higher status than that of outright slavery.
D. This was probably because many, if not most, of the Indians who went abroad in the last century, were poor and from the lower castes.
6. Indeed, the Indians often replaced African slaves in countries like Mauritius, and Guyana after slavery was officially abolished in the 1830s.

ABCD

BCDA

DCBA

BDAC

Q43. **Choose the word opposite in meaning to the given word**

Mutinous

Abstruse

Esoteric

Recondite

Compliant

Q44. Identify the one which is opposite in meaning (antonym) to the question word and mark.

punctilious

conscientious

slapdash

careful

meticulous

Q45. **Select most suitable synonym**

vacillate

stabilize

diversify

fluctuate

authenticate

Q46. **From the given options choose the one which best expresses the given sentence in active/passive voice:**

Has someone made all the necessary arrangements?

Has all the necessary arrangements been made by someone ?

Have the necessary arrangements been all made by someone ?

Have all the necessary arrangements been made by someone ?

All the necessary arrangements have been made by one ?

Common Content:

P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre:
1. P is second to the right of T who is the neighbor of R and V.
2. S is not the neighbor of P.
3. V is the neighbor of U.
4. Q is not between S and W. W is not between U and S.

Q47. Which one is immediate right to the V?

P

U

R

T

Q48. Who is to the second left of W?

V

T

R

P

Q49. Which two of the following are not neighbors?

RV

UV

RP

QW

Q50. Which of the following pairs are not neighbors?

TV

TR

UV

QS

Q51. Which one is immediate right to the R?

P

U

R

T

Common Content:

Read the passage given below and answer the questions.

I left school soon after that. There was nothing they could teach me that would not be better learned in the real world: the experience of felt life is what lies at the still center of all the great anthologies. I shipped abroad a cooler on the Maracaibo rum, and I discovered what a Laskar likes to read in the still watches of the stifling equatorial night. My first anthology, a slim volume and privately circulated, consisted of buttocks snipped from Health and Efficiency interlarded with Gujarati limericks and reliable Portsmouth telephone numbers. Juvenilia, perhaps, and afflicted with the sort of critical introduction that I have long since learned always goes unread, but no worse than, say, the annual Beside Guardian.

Two years later, I jumped ship at Dakar and took up with a Senegalese novelty dancer who had a tin-roofed shack down by the harbor and a brother who worked three days a week as a roach exterminator in the British Council library. It was perhaps, the most idyllic and fruitful period of my life; it was mornings of grilled breadfruit and novelty dancing on the roof overlooking the incredible azure of the Indian Ocean, and afternoons of studying the anthologies her brother would steal from the library, the absence of which, when noticed, he would attribute to the kao-kao beetle which subsisted, he said, entirely upon half-morocco.

I read everything, voraciously: I learned how anthologies worked, of chronology, literary contrast, and the tenth-rate pieces done by close friends of the editor. I divined the trick of bibliographical attribution, whereby the skilled anthologizer credited the original source, rather than the previous anthology from which he himself had worked. I noticed how an expensive thin volume could be turned into a cheap fat volume by amplifying it with long sections of junk that happened to be out of copyright. I made out an invaluable list of titled paupers who could be called upon to endorse the anthologizer's choice with tiny masterpieces of prefatorial cliché, usually beginning: "Here, indeed, are infinite riches in a little room" and ending with a holograph signature.

The idyll could not last: there was a waterfront bar where expatriate anthologizers-they called themselves that, though few among them had ever collated anything more remarkable than privately printed regimental drinking songs or limited-circulation pamphlets called things like The Best of the Old Eastbournian, 1932-1938 – gathered of an evening to drink and argue recondite theories of anthological technique, and one night I had the misfortune to fall foul of a gigantic ex-Harvard quarterback who claimed to be on the point of closing a two-figure deal for his Treasury of Mormon Prose.I shall not distress you with the details. When I woke up the following morning, my youthful good looks were gone to be rapidly followed by my Senegalese paramour. Two weeks later, I left the infirmary and returned for good, far older than my twenty-two years, to England.

Britain, in 1960, was not at all as it had been a few scant years before. A new spirit was abroad, a harsher, grittier, more realistic spirit. It was the Age of Anger, and the whole face of the English anthology had changed overnight. Gone were the elegantly produced collections of ethereal lyrics and robust nineteenth-century narrative verse. Gone were the leather-bound volumes packed with a thousand pages of India paper bearing the jeweled fragments of English prose from A Treatise on the Astrolabe to Hilaire Belloc on mowing.

In their place, the new race of angry young anthologizers was churning out paperback collections of bogus radicalise entitled Whither Commitment? and Exercises in Existentialism and The Right to Know – Essays on the Obligations of Communicators in a Negative Environment. As for the more popular market, such classics as A Knapsackery of Chuckles or A Wordsmith's Bouquet had been thrown out in favor of The Wit and Wisdom of Macdonald Hobley and Dora Gaiskell's Rugger Favourites.

Ninety percent of all anthological output was manufactured by the BBC, linked on the one hand to a vaguely similar broadcast and on the other to a wide range of dangle-dollies and jocular tea towels.

Q52. The attitude with which the author narrates the incidents of his life with respect to the anthology can best be described as:

- contemplative and wistful.
- mirthful and reminiscent
- lighthearted and sarcastic.
- wistful and nostalgic.

Q53. What can be inferred about the author's stay at Dakar?

- The author's stay was a romantic but painful experience.
- The author's stay was an educational experience.
- The author's stay was the most beneficial and enjoyable part of his life.
- The author's stay was the most easy-going but painful part of his life.

Q54. Why, according to the author, is bibliographical attribution a trick?

- An anthologizer receives due credit for work done by himself.
- An anthologizer can provide a favourable impression that he has read the original source even though he has not done so.
- An anthologizer is skilled at putting together several pieces as well as balancing chronological and sequential options.
- An anthologizer can provide a favourable impression for himself by giving credit where it is due rather than by attributing it to some other author.

Q55. What is the main topic of discussion in the passage?

- Learning experiences that the author culled from his different sojourns.
- The evolving art of anthology.
- The author's learning experiences with respect to anthology.
- The unfortunate experiences of the author in Dakar.

Common Content:

Read the passage and fill in the blanks using the options given for the respective blank:

When sound ____(1)___ the world of cinema, mime made a gracious exit ___(2)___ then, it stood proudly as a performing art in itself, independent and ___(3)___ in style, approach, treatment and performance not matched however, by ___(4)___ acceptance. During the silent era actors in silent films had to ___(5)___ totally on mime as the only way of ____(6)____ their emotions, expressions, incidents, events and interactions between and among characters.

Q56. Choose the appropriate word for the blank numbered (5)

- portray
- act
- rely
- depict

Q57. Choose the appropriate word for the blank numbered (6)

- designing
- expressing
- stimulating
- considering

Q58. Choose the appropriate word for the blank numbered (2)

- for
- so
- since
- until

Q59. Choose the appropriate word for the blank numbered (3)

- single
- unique
- treacherous
- dependent

Q60. Choose the appropriate word for the blank numbered (4)

conclusion

opinion

judgement

popular

Section 2 - Pseudocode and Computer Fundamentals

Section Summary

- No. of Questions: 30
- Duration: 30 min

Additional Instructions:

None

Q1. What will be the output of the following pseudocode?

```
1  Integer p,q,r
2  Set p=7,q=2,r=6
3  p=r+q
4  q=p^p
5  for (each r from 3 to 5)
6     p=(q+8)+p
7     if ((p-r)>(r+p)||q>r)
8        p=(8+3)+p
9        q=(r+r)+q
10       continue
11    End if
12 End for
13 Print p+q
```

32

50

27

41

Q2. What will be the output of the following pseudocode?

```
1  Integer p,q,r
2  Set p=3, q=7, r=8
3  p=9+r
4  if((p+r)<(r-q))
5    q=(q+r)+p
6  End if
7  Print p+q+r
```

26

32

37

46

Q3. What will be the output of the following pseudocode for a=9, b = 7?

```
1  integer funn(integer a, integer b)
2  integer c
3  set c=2
4  b= b MOD c
5  a= a MOD c
6  return a+b
7  end function funn( )
```

17

5

-5

2

Q4. What will be the output of the following pseudocode?

```
1  Integer a,b,c
2  Set a=9,b=11,c=9
3  if (b>c && (c+a)>(a-c))
4     c=(c^10)+c
5  End if
6  Print a+b+c
```

37

30

32

41

Q5. What will be the output of the following pseudocode?

```
1  Integer array1[6], p,j,q
2  Set p=3
3  Set array1[6]={ 3,6,10,12,23,33}
4  for (each j from 0 to 5)
5     if((array1[j] MOD p) EQUALS 0)
6        p=array1[j]-p*3
7     end if
8  q=p+array1[j]-3
9  end for
10 Print q
```

54

64

44

34

Q6. What will be the output of the following pseudocode?

```
1  Integer p , q
2  Set q = 280,p=0
3  for (each i from 1 to 4)
4     q = q / 10
5     p = p + q + 2
6  end for
7  Print p
```

32

288

12

38

Q7. What will be the output of the following pseudocode?

```
1  Integer p,q,r
2  Set p=1, q=5, r=10
3  if((r-q+p) > (p+r))
4     p=q+p
5  End if
6  if((r-7)< (7+r))
7     p=(r+r)+p
8     r=p+q
9  End if
10 Print p+q+r
```

51

56

63

52

Q8. What will be the output of the following pseudocode when funn(2,6,11) called?

```
1  Integer funn( Integer a, Integer b, Integer c)
2    for(each c from 2 to 3)
3      a = 3 + a
4      if(b > a)
5       b= 5 + 3 ) + a
6     End if
```

```
7  End for
8  return a + bQ
```

- 32
- 29
- 19
- 24

Q9. What will be the output of the following pseudocode?

```
1  integer a, b,c
2  set b=3, a= 5, c=1
3  if( b < a )
4  b= a
5  end if
6  for(each b from 0 to (1^2^3))
7  b= b + 1
8  end for
9  print b
```

- 6
- 5
- 2
- 1

Q10. What will be the output of the following pseudocode if **a=0** and **b=0**?

```
1   Integer funn(Integer a, Integer b)
2     for (each c from 1 to 6)
3       a=(b+5)+c
4       if((b+c)<(a&b))
5         b=(9&b)
6       Else
7         continue
8       End if
9       c=(b+3)+a
10    End for
11  return c+a
```

- 15
- 17
- 19
- 18

Q11. What will be the output of the following code?

```
1  Function m()
```

```
1  Function m()
2  print hi
3  End Function
4
5  Function main()
6  m();
7  End main
```

- hi
- Compile Time Error
- Nothing
- Varies

Q12. What will be the outputs of the following pseudocode if a=25 and a=16 are executed separately?

```
1  integer a
2  if((a mod 10) IS EQUAL TO 0)
3     a=a*2
4  else if((a mod 5 ) IS EQUAL TO 0)
5     a=a/5
6  else
7     a=a-1
8  end if
9  print a
```

- a=5 and a=15
- a=15 and a=20
- a=25 and a=15
- a=35 and a=25

Q13. What is the output of this code?

```
1  Declare integer x=0
2  if (x EQUALS TO 0)
3  Print true,
4  Elseif (x EQUALS TO 10)
5  Print false,
6  Print x
```

- false,0
- true,0
- true,10

Compile time error

Q14. What will be the output of the following algorithm?

```
1  Start
2  Declare a, I and b
3  for I =0 to 4
4  Increment a by 1
5  if I = 3 then
6  print hello
7  get out of the loop
8  End if
9  End for
10 print a
```

4

1

hello4

hello

Q15. What will be the output of the following pseudocode?

```
1  Integer a,b,count,count1
2  Set a=1, b=1
3  while(a<=5)
4  b=1
5  while(b<=5)
6  b=b+1
7  count1 = count1 + 1
8  end while
9  a= a + 1
10 count = count +1
11 End while
12 Print count, count1
```

count=5 count1=25

count=45 count1=25

count=50 count1=5

count=50 count1=25

Q16. What will be the output of the following pseudocode?

```
1  Input f = 6,g = 9 and set sum = 0
2  Integer n
3  if (g > f)
4  for(n=f; n<g; n=n+1)
5  sum=sum+n
6  End of loop
7  else
8  print Error messages
9  print sum
```

21

15

9

2

Q17. Which of the following is Non-Volatile?

SRAM

DRAM

ROM

All of the mentioned options

Q18. In how many generations a computer can be classified?

3

4

5

6

Q19. Which of the following is designed to control the operations of a computer?

User

Utility Software

Application Software

System Software

Q20. What is the primary objective of the Optimal Page Replacement Algorithm?

To maximize CPU usage

To minimize disk space usage

To maximize the number of page faults

To minimize the number of page faults

Q21. What happens when a new page arrives in the FIFO page replacement algorithm?

The page with the highest access frequency is replaced.

The page with the lowest access frequency is replaced.

The page with the highest access time is replaced.

The page at the front of the queue is replaced.

Q22. IP packets whose total length (data plus header) is 16Kb basting out of a router live for 15 seconds. The maximum line speed (in MBPS) of the router can operate at without cycling through the IP datagram identification number space is?

68.266 mbps

57.233 mbps

53.6 mbps

10.333 mbps

Q23. At which layer, the trailer usually contains bits used for error detection?

Network

Session

Transport

Data Link

Q24. A Sliding window protocol of 4Mbps point-to-point link has a propagation delay of 0.5 sec Assume that each frame carries 2 KB of dat(a). What is the minimum no. of bits used for the sequence number field?

10

9

12

8

Q25. Which of the following is true about TCP?
(i) It is a byte-oriented port to port communication
(ii) It uses a combination of SR and Go–Back N for flow control
(iii) It connections are linked to link and full duplex
(iv) It uses piggybacking whenever possible

- (i), (iii) and (iv) are correct
- (i), (ii) and (iv) are correct
- (ii), (iii) and (iv) are correct
- All of the mentioned options

Q26. In an IPv4 packet, the value of HLEN is 15, and the value of the total length field is 0X0064. How many bytes of data are being carried by this packet?

- 85 bytes
- 49 bytes
- 40 bytes
- 20 bytes

Q27. What is the value of a symmetric key in the Diffie – Hellmen protocol if A and B want to exchange the key? Given that A chooses $X_A = 3$ and B chooses $X_B = 7$, $\alpha = 7$, $p = 23$?

- 17
- 21
- 13
- 10

Q28. A building running CSMA – CD protocol has a bandwidth of 512 Mbps and a distance of 2 kilometers then determine the minimum data size to detect a collision. Assume that the signal speed is 2,00,000 km/s

- 1000 bytes
- 1250 bytes
- 1280 bytes
- 1024 bytes

Q29. Consider the following message M = 1010001101. The cyclic redundancy check (CRC) for this message using the divisor polynomial $x^5 + x^4 + x^2 + 1$ is :

- 01110
- 01011
- 10110
- 01101

Q30. Which topology is suitable for large networks where scalability is essential?

- Bus
- Ring
- Mesh
- Star

Answer Key & Solution

Section 1 - Aptitude

Q1 $\frac{2}{27}$

Solution

Considering the given fractions

2/3, 4/9, 8/27

HCF of 2, 4 and 8

⇒ 2 = 2

⇒ 4 = 2 × 2

⇒ 8 = 2 × 2 × 2

HCF of 2, 4 and 8 = 2

LCM of 3, 9 and 27

⇒ 3 = 3

⇒ 9 = 3 × 3

⇒ 27 = 3 × 3 × 3

LCM of 3, 9 and 27 = 3 × 3 × 3 = 27

HCF of 2/3, 4/9, 8/27 = (HCF of 2, 4 and 8)/(LCM of 3, 9 and 27) = 2/27

∴ Required HCF = 2/27

Q2 0

Solution

The product of any five consecutive numbers is divisible by 5!

So, 1*2*3*4*5 is divisible by 120.

Similarly, 6*7*8*9*10 is also divisible by 120.

120! can be written as (1*2*3*4*5)*(6*7*8*9*10)*...*(116*117*118*119*120)

Each of the 24 terms is divisible by 120

Hence, the product is divisible by 120^{24}

So, the remainder when 120! is divided by 120^{24} is 0.

Q3 48

Solution

Let him sell x cows at gain of 20% and y cows at a gain of 30%.

→ 0.2x + 0.3y = 0.28(x + y)

→ y = 4x.

∴ x + 4x = 240 => x = 48.

Q4

16.67%

Solution

Kannan spends 20% more than Surendar

Let Surendar=100

Then Kannan=120

According to question Surendar spends how much less than Kannan

Kannan=120, Surendar=100, different=20

{(120–100)/120}*100

={20/120}*100

={1/6}*100

=100/6

=16.67%

So, Surendar spends 16.67% less than Kannan.

Surrender spends = 20/100+20 x 100

= 20/120 x 100

= 50/3

= 16.67% less than Kannan.

Q5

60

Solution

Let red and blue pens are purchased by the shopkeeper at Rs.'x' and '120-x' respectively.

According to the question :

(115% of x) + (90% of (120-x)] = 108.75% of 120

1.15x + 108 - 0.9x = 130.5

0.25x = 22.5

x = 90

Required difference = x - (120-x) = (2x-120) = 60

Q6

800

Solution

Let the marked price of the toy be 100x

90x - 80 = 95x - 100

x= 4

MP of one toy = Rs.400

MP of 2 toys = 800

Q7

148 hrs

Solution

3×V=2×K

V/K=2/3=10/15

4×K=D×5

K/D=5/4=15/12

Total work=48×(10+15+12)Time of Dinesh=((48×37/)12)=148 hr.

Q8

600, 400, 500

Solution

A's 5 days work = 50%

B's 5 days work = 33.33%

C's 2 days work = 16.66%[100- (50+33.33)] Ratio of contribution of work of Arun, Bala and Chitra = 3 : 2 : 1

Arun's total share = Rs. 3000

Bala's total share = Rs. 2000

Chitra's total share = Rs. 1000

Arun's one day's earning = Rs.600

Bala's one day's earning = Rs.400

Chitra's one day's earning = Rs.500

Q9

30 km/hr

Solution

Let x be the speed of faster train and y be the speed of slower train,

According to the question,

Each train is 100 meters long.

Relative distance = 100 + 100 = 200 meters

When they are running in the same direction,

Their relative speed = (x - y) m/s,

So, the time taken by faster train to overtake the slower train,

$t_1 = 200/x-y$

According to the question,

$t_1 = 60$ sec

$60 = 200/x-y \Rightarrow 60x-60y=200 \Rightarrow 3x-3y = 10$ ------(1)

Again, in opposite direction,

Their relative speed = (x + y) m/s

So, the the time taken by faster train to overtake the slower train,

$t_2 = 200/x+y$

Again according to the question,

$t_2 = 10$ sec

$10 = 200/x+y \Rightarrow 10x+10y = 200 \Rightarrow x+y = 20$ -------(2),

3 × Equation (2) - Equation (1),

6y = 60 - 10

⇒ y = 50/6 m/s

⇒ y = (50/6 × 18/5) km/h = 30 km/h (Since, 1 m/s = 18/5 km/h),

So, the speed of slower train is 30 km/h.

Q10 15 kmph

Solution

We know that, Distance traveled = Average speed × Time required

Given, Average velocity = 90 kmph

= (90/60) km/min ---------- (1 Hour = 60 Minutes)

= 1.5 km/min

Time required = 15 min

∴ Distance traveled = (1.5 × 15) km = 22.5 km

Now, Time required = 90 min = 1 hr 30 min

∴ Average speed = Distance traveled/Time required

= 22.5 km/90 min

= 0.25 km/min

= 0.25 × 60 kmph ---------- (1 Hour = 60 Minutes)

= 15 kmph

Time is inversely proportional to speed.

Let X be the new speed required.

So,

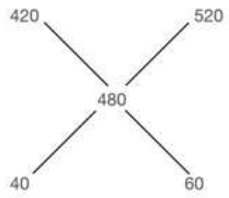
15/90 = X/90

X = 15 kmph

Q11

2:3

Solution



The ratio of both types = 40:60 = 2:3

Q12

9 : 7

Solution

X + Y = 20 ....(1)

X - Y = 2.5 .(2)

Solving both the equations simultaneously, we get, X = 11.25, Y = 8.75,

ratio = 9 : 7.

Q13

5

Solution

Rs.100 invested in compound interest becomes Rs.200 in 5 years.

The amount will double again in another 5 years.

i.e., the amount will become Rs.400 in another 5 years.

So, to earn another Rs.200 interest, it will take another 5 years.

Q14

5759.52

Solution

Due to a fall in the interest rate of 0.5% the interest is reduced by 104 rupees.

0.05% of the Principal = 104

So P = 20800.

C.I for 2yrs at 13% intrest will be

$C.I = P(1 + r/100)^n - P$

Sub the values

C.I = 5759.52

Q15 0.67

Solution

P(M and S) = 0.40

P(M) = 0.60

P(S|M) = P(M and S)/P(S) = 0.40/0.60 = 2/3 = 0.67

Q16 3/11

Solution

n(S) = 2+3+6 = 11

n(E) = 3

P = 3/11

Q17 12!

Solution

Short-cut;

Since rotation is not allowed , we have

Total ways = (n – 1)! = (13 – 1)! = 12!

Q18

3/2

Solution

Sum of terms upto infinity in a G.P = a / (1-r)

a= 1, r= 1/3

Sum= 1/ (1- 1/3)= 1/(2/3)= 3/2

Q19

(11, 9, 3)

Solution

Given that m + p + b = 23 and $m^2 + p^2 + b^2 = 211$.

Now, going through options we find that option (11, 9, 3) is true. Hint you are not required to compute all the options fully.

First, check whether the sum of all the options is 23.

Now, check whether the sum of squares of unit digits is 1 as it is there in 211.

Other options are thus ruled out.

Given, p+m+b=23 -------- (i)

$p^2+m^2+b^2$=211 -------- (ii)

From equations (i) and (ii), we get: p = 11, m = 9 and m = 3

Q20

122

Solution

Total marks obtained by the class = 71 x 48

Total marks obtained by first 59 results = 59 x 16

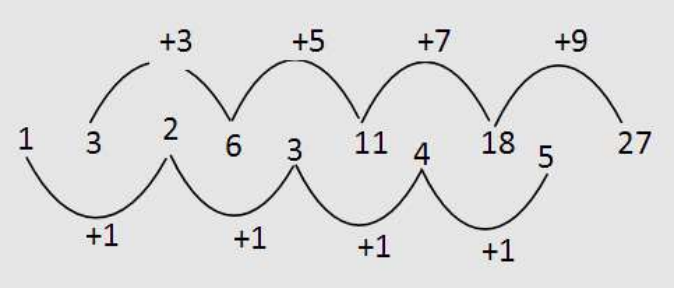
Total marks obtained by last 11 results = 11 x 52

71 x 48 = 59 x 46 + x + 11 x 52 => x = 122.

Q21

27

Solution



Q22 17.6

Solution

No Solution

Q23 Sister

Solution

Male(+), Female(-), Couple(=), Siblings(–), Next Generation (|)

R (-) -- S
| |
R's son S's son

Because of R's son and S's son are cousin. So they should either be sisters or brothers.

S has no brother.

Therefore R is sister of S.

Q24 Grand father

Solution

Male(+), Female(-), Couple(=), Siblings(–), Next Generation (|)

Sohanji (+)
|
Reeta (-) -- Rohit -- Rohit's sister
|
Indu

Sohanji and Indu are in the Grand relation , Ie Sohnji is two relations above Indu, So grandfather

Q25 Brother-in-law

Solution

No Solution

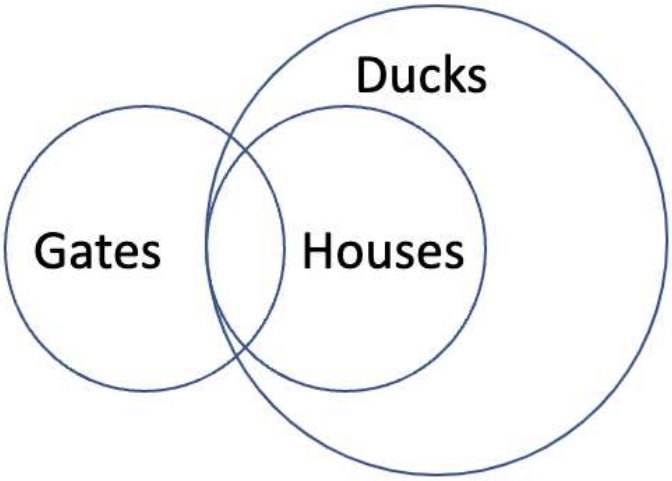
Q26 If all conclusions follows

Solution

No Solution

Q27 If only conclusion II follows.

Solution



Only II follows

Q28 if neither statement (A) nor statement (B) is individually sufficient to solve the question, but a combination of both is sufficient to solve the question.

Solution

Statement (A) alone is not sufficient since it implies only that n = 2k + 3, which could be any odd number.

Statement (B) alone is not-sufficient since it does not give any information about n. It imply that 2k - 4 = 7X, where X is' an integer. After combining note that 2k + 3, from (A), can be expressed as (2k - 4) + 7. Thus, combining the information in (A) and (B), n = 2k + 3 = (2k. — 4) + 7, which is divisible by 7 since it is the sum of 2 terms, each of which is divisible by 7.

Q29 If the data in statement I alone are sufficient to answer the question while data in statement II alone is not sufficient.

Solution

From I alone : we have one final arrangement :

O R M P N Q

Hence, M is to the 2nd left of N.

I alone is sufficient.

From II alone : we have 2 different arrangement :

O __ M Q P N

O __ M P N Q

Here, we cannot determine who is to the 2nd left of N.

Hence, II alone is not sufficient.

So, the answer is I ALONE IS SUFFICIENT

Q30 If neither conclusion I nor II is true.

Solution

Combined inequality: Q = S > T > Z & Q = S > T > Y = H < I & Z < T > Y = H < I

Conclusion: I.Z < T > Y = H < I No relationship can be established betweenZ and H.

Hence, conclusion I is not true.

II.Z < T > Y = H < I

No relationship can be established between I and Z. Hence, conclusion II is not true.

Q31 if neither conclusion I nor conclusion II is true

Solution

Combined Inequalities: R ≤ K ≤ H = O ≥ D > Q and P < K ≤ H = O ≥ D > Q R ≤ K ≤ H = O ≥ D > Q, No relationship can be established between K and Q. Hence, conclusion I is not true. P < K ≤ H = O ≥ D > Q, No relationship can be established between D and P. Hence, conclusion II is not true.

Q32 RTNP

Solution

(D)

J L F H

+8 +8 +8 +8

R T N P

Q33 bon fon pon

Solution

In the first and fourth sentences, common word is 'some' and common-code is 'bon'.

In the second and third sentences, common word is 'dangerous' and common code is 'fon'.

In the first and second sentences, common word is 'cheats' and common code is 'pon'.

Therefore, 'some dangerous cheats' means 'bon fon pon'.

Ans. (3)

Q34

HPIESAPNS

Solution

Word : CIRCUMSTANCE

Pattern : Alternate letters are written as group.

Code : CRUSACICMTNE

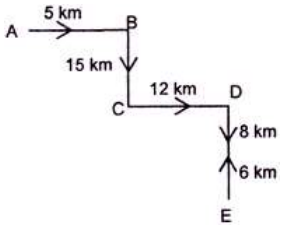
Similarly, the code for HAPPINESS is HPIESAPNS.

Q35

17 km

Solution

The path traversed by Priya is as follows



Let A be the starting point and F is the final point. The vertical distance is B to C, D to F.

B to C is 15 km

D to F is DE – EF = 8 – 6 = 2 km

Vertical distance is 15 + 2 = 17 km.

Q36

In

Solution

In is used for unspecific times during a day, month, season, year

Q37

up

Solution

brought up - to bring to maturity through care and education

brought in - to use the skills of a particular group or person

brought out - to express (a thought or emotion) in words

Among this, brought up is the perfect fit for the given context of the question.

Q38 for

Solution

The preposition "for" is used to indicate the reason why something or someone is well-known. In this sentence, "famous for" explains that Venice is well-known because of its canals.

Q39 guitar as she did

Solution

The word like is a preposition, not a conjunction. It can, therefore, be used to introduce a prepositional phrase, but it should not be used to introduce a clause. Therefore, Option (a) and (c) are eliminated. Option (d) have wrong placement of commas, hence they are inappropriate.

Q40 Only A

Solution

Sentence A is incorrect as it 'environment' (noun) not 'environmental' (adjective) since it modifies 'cost'. Hence sentence A alone is incorrect.

Q41 QRPS

Solution

Q must be the first statement and must be followed by R as it mentions the consequence of bad treatment inflicted on the lower ones. P must come after it as 'those' is mentioned in it. Finally, S states the consequence.
Thus the correct order is **QRPS** and **option 2** is the correct answer.

Q42 BDAC

Solution

Sentence 1 says that now the attitude has changed. So, statement. 'B', which talks of a time 'when tended to look down upon follows naturally. Two choices, (2) and (4) can now be short-listed. 'D' gives the reason as to why these people were looked down upon. Hence, 'D' should follow statement 'B'. Choice (4)

Q43 Compliant

Solution

Mutinous means refusing to obey the orders of a person in authority.

Abstruse - difficult to understand; obscure.

Esoteric - intended for or likely to be understood by only a small number of people with a specialized knowledge or interest.

Recondite - (of a subject or knowledge) little known; abstruse.

Compliant - disposed to agree with others or obey rules, especially to an excessive degree; acquiescent.

Q44 slapdash

Solution

'Punctilious' refer to being very careful or to perform your duties exactly as you should. 'Conscientious' means taking care to do things carefully and correctly Meticulously means the same. The appropriate antonym is 'slapdash' which means done or doing something too quickly and carelessly.

Q45 fluctuate

Solution

The word vacillate means hesitate or fluctuate. Stabilize refers to steady, diversify refers to expand and authenticate refers to confirm. So the best answer is fluctuate.

Q46 Have all the necessary arrangements been made by someone ?

Solution

Solution:

The sentence is in Present Perfect Tense and is in active voice.

When there is a change of voice, someone becomes object and arrangements becomes subject.

Has becomes has...been

Since arrangements is plural, it becomes have...been

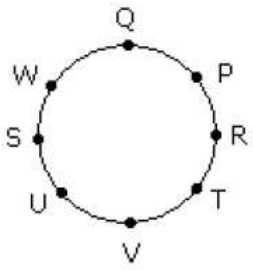
The right answer is "**Have all the necessary arrangements been made by someone ?**"

'Have the necessary arrangements been all made by someone ?" is grammatically incorrect

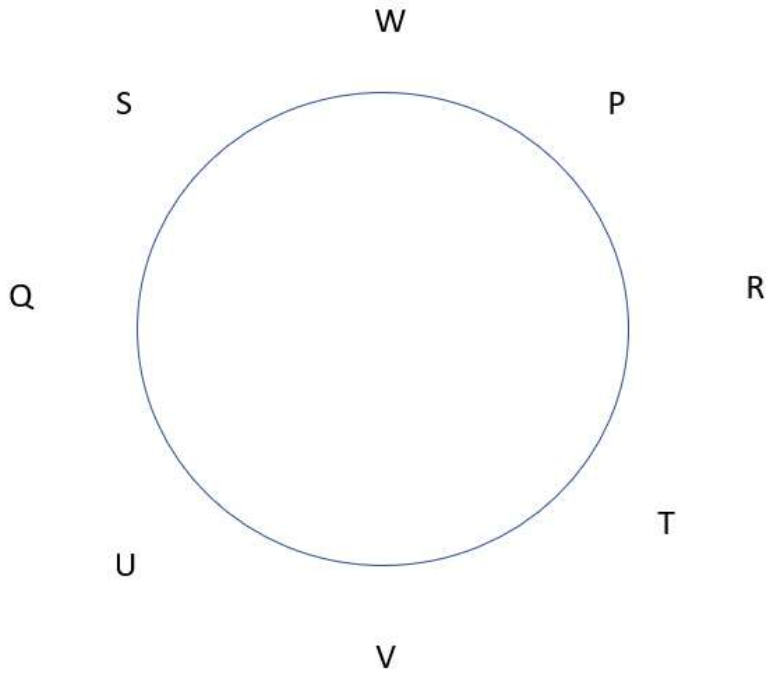
Q47. T

Solution

case 1 :



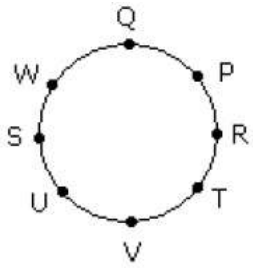
ase 2 :



is to the right of V in both cases.

Q48. P

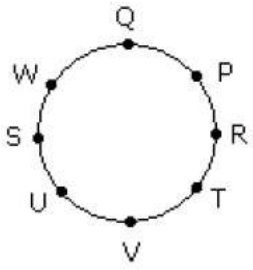
Solution



P is second left of W.

Q49. RV

lution

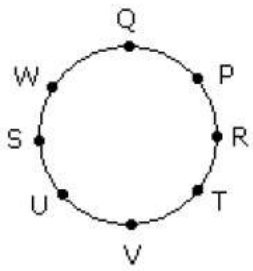


V are not neighbours.

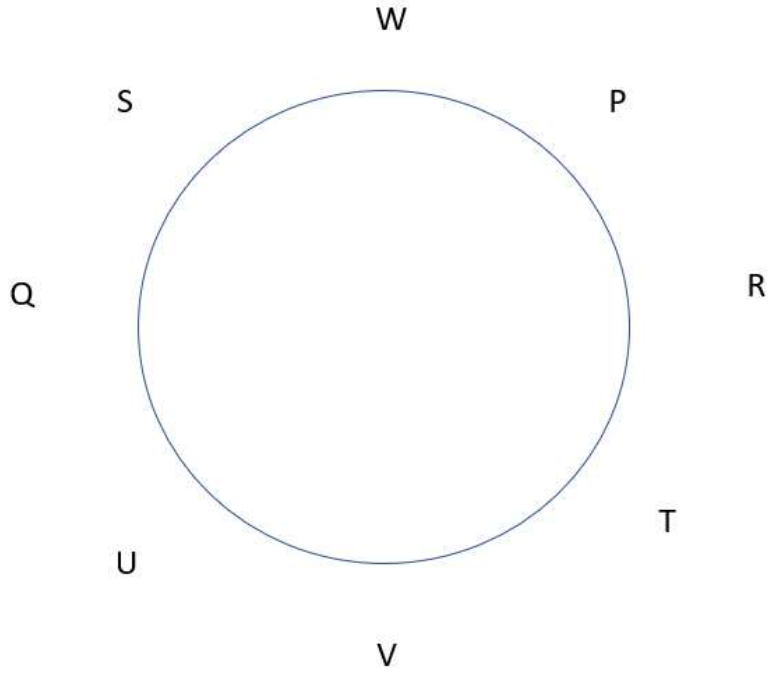
Q50. QS

Solution

case 1 :



Case 2 :

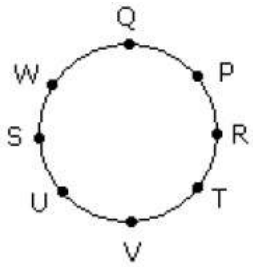


S are not neighbors.

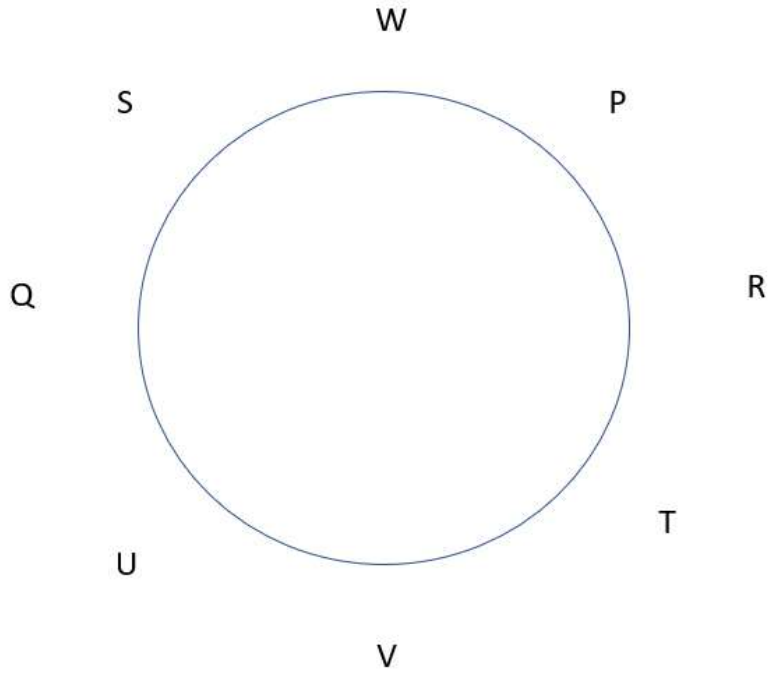
Q51. P

Solution

case 1 :



Case 2 :



P is to the right of R in both cases

Q52. lighthearted and sarcastic.

Solution

The passage is replete with examples of the author's light hearted tone; phrases such as 'steal from the library..... and attribute to the Kao-Kao beetle', shall not distress you with the details' etc illustrate this. The author's sarcasm is evident through 'Here, indeed are infinite riches in a little room' and the manner in which he disapproves of the anthologizer's style

f work. It is not 'contemplative' since the author does not provide a deep insight and
ıought into anything, nor can it be called 'reminiscent', 'nostalgic' or 'wistful' since while
ɛcounting his past, the author does not present it with mixed feelings of sadness and
leasure. 'Mirthful' means extremely happy whereas the author's tone is just is just
ghthearted.

Q53. The author's stay was the most beneficial and enjoyable part of his life.

Solution

The author says in line 3 of paragraph 2 that his stay in Dakar was the most idyllic and fruitful time of his life. The only option that reflects these traits is option [c]."Romantic", "painful", 'easy –going' and " educational" were just parts of his experience.

Q54. An anthologizer can provide a favourable impression that he has read the original source even though he has not done so.

Solution

Paragraph 2 of the passage clearly mentions how an anthologizer may credit the original source without even reading it and thus not due credit to the real source perhaps a previous anthology from which he himself had worked. Only option [b] adheres to this idea and hence we can call bibliographical attribution a trick. Option [d] contradicts what is mentioned in the passage while option [a] is false. Option [c] tells about the 'skilled anthologizer' and not the bibliographical trick.

Q55. The author's learning experiences with respect to anthology.

Solution

The passage focuses on the author's life as centered around the world of anthologies. It describes changes in both these areas. Option [b] is incorrect as it deals with the art of anthology, which has not been discussed. Option [d] constitutes only a part of the passage. Option[a] is close but the passage does not focus only on the learning experiences of the author. Option [c] correctly summarises the topic of discussion as the author's learning experiences with respect to anthology.

Q56. rely

Solution

rely- trust on

Q57. expressing

Solution

No Solution

Q58. since

Solution

"Since" is the answer because it refers to a point in time in the past.

Q59. unique

Solution

unique - one of a kind

Q60. popular

Solution

A performance becomes popular

Section 2 - Pseudocode and Computer Fundamentals

Q1 32

Solution

p=7,q=2,r=6, p=6+2=8,q=8^8=0

Inside loop, if block condition gets failed for all the iteration.

When r=3, p=(0+8)+8=16.

When r=4, p=(0+8)+16=24.

When r=5, p=(0+8)+24=32

Then 32+0=32.

Q2 32

Solution

No Solution

Q3 2

Solution

No Solution

Q4

32

Solution

No Solution

Q5

54

Solution

If block executes only when j=0 and 1.

When j=0, updated value of p=-6 ,q= -6

When j=1, updated value of p=-24 ,q= 27

When j=2, updated value of p=24 ,q= 31

When j=3, updated value of p=24 ,q= 33

When j=4, updated value of p=24 ,q= 44

When j=5, updated value of p=24 ,q= 54 and terminates the loop. So output is 54.

Q6

38

Solution

Initially q=280 and p=0.

When i=1 , q=28 and p=30

When i=2 , q=2 and p=34

When i=3 , q=0 and p=36

When i=4 , q=0 and p=38. When i=5 loop terminates and prints 38.

Q7

52

Solution

No Solution

Q8

24

Solution

In function call funn(2,6,11)

When c=2 , values updated to a=5 b=13

When c=3 , values updated to a=8 b=16

When c=4 , loop terminates and return 8+16=24

Q9

2

Solution

In for loop b value varies from 0 to 1. (2 power 3 =8 , 1 power 8 =1)

For each iteration b increment by 1. So when b=1 (b=1+1)

So b gets printed.

Q10

17

Solution

```
import java.util.Scanner;

public class Main {

public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
int a = sc.nextInt();
int b = sc.nextInt();
int result = funn(a, b);
System.out.println("Result: " + result);
}

public static int funn(int a, int b) {
int c = 0;
for (int i = 1; i <= 6; i++) {
c = i;
a = (b + 5) + c;
if ((b + c) < (a & b)) {
b = (9 & b);
} else {
continue;
}
c = (b + 3) + a;
}
```

return c + a;

}

}

The code for the given pseudocode. The answer is 17.

Q11 hi

Solution

main calls function m()

function m() print hi

ANS : hi

Q12 a=5 and a=15

Solution

No Solution

Q13 true,0

Solution

x = 0

if condition (x==0) executes and print true.

if condition (x == 10) fails

and print x

ANS : true,0

Q14 hello4

Solution

The value of a is 1 for i = 0

The value of a is 2 for i = 1

The value of a is 3 for i = 2

for i = 3

if condition performs

print hello

The value of a is 4

ANS : hello4

Q15

count=5 count1=25

Solution

Outer while loop executes for 5 times

inner while loop executes 5 times for 1 outer loop so 5*5 = 25 times

ANS : count = 5 count1 = 25

Q16

21

Solution

In this pseudo code, the for loop operates from n = 6 until n < 9.

In the first iteration we have the value of n = 6, s = 0 + 6 = 6.

In the next iteration we have the value of n = 7, s = 6 + 7 = 13.

In the third iteration we have the value of n = 8, s = 13 + 8 = 21.

The next iteration wouldn't be executed since the condition of the loop n < 9 becomes false. And thus the loop terminates.

So the final answer we get is 21.

Q17

ROM

Solution

No Solution

Q18

5

Solution

No Solution

Q19

System Software

Solution

No Solution

Q20 To minimize the number of page faults

Solution

No Solution

Q21 The page at the front of the queue is replaced.

Solution

No Solution

Q22 53.6 mbps

Solution

No Solution

Q23 Data Link

Solution

The trailer containing bits used for error detection resides at the **Data Link Layer** of the Open Systems Interconnection (OSI) model. Here's why:

- The Data Link Layer (Layer 2) is responsible for reliable data transfer between adjacent network nodes (like switches or routers). It ensures data gets delivered correctly from one device to the next on the same network segment.
- To achieve this reliability, the Data Link Layer employs error detection techniques. These techniques often involve adding a trailer (also called a frame check sequence - FCS) to the end of data packets (frames).
- The trailer contains a checksum or other calculated value based on the data in the frame. The receiving device calculates its own checksum on the received data and compares it with the value in the trailer. If they match, it's assumed the data arrived without errors. If they don't match, an error is detected, and the Data Link Layer can take corrective actions (like requesting retransmission).

Q24 8

Solution

Propagation delay 1 – way latency = 0.5 sec
RTT (2-way latency) = 2 * 0.5 = 1 sec
B = 4Mbps
L = 2KB of data

$$T_{trans} = L/B = \frac{2\times1024\times8 \text{ bits}}{4\times10^{6} \text{ bits/sec}} = 4.096 \times 10^{-3} \text{ sec}$$

RTT = 1 sec = 1000 * 10^{-3} sec

$$\text{Window size} = \frac{T_{trans} + 2 . T_{prop}}{T_{trans}} = \frac{\left(4.096\times10^{-3}\right)+\left(1000\times10^{-3}\right)}{4.096\times10^{-3}} = 245.14$$

Therefore, no. of sequence bits = ceil($\log_2$ Ws) = ceil($\log_2$ 245.14) = 8

Q25

(i), (ii) and (iv) are correct

Solution

No Solution

Q26

40 bytes

Solution

The HLEN value is 15, which means the total number of bytes in the header is 15*4 = 60 bytes (this is the maximum possible header length). Given the total length is 0X0064 in hexadecimal = 100bytes including header size. So, the data carried by this packet = total length – header length = 100 – 60 = 40 bytes.

Q27

10

Solution

α = 7 and p = 23

Given that A selected X_A=3 so A calculates Y_A=α^{Xa} mod p and sends Y_A to BX_A is private and Y_A is public to A.

So Y_A 7^3 mod 23 = 21 (X_A, Y_A) = (3,21)B

selected X_B = 7 and calculates Y_B = α^{Xb} mod p and sends Y_B to A.X_B is private and Y_B is public to B.

So Y_B = 77 mod 23 = 5 ⇒ (X_B , Y_B) = (7.5)

Now the key is computed at A as $(Y_B)^{XA}$ mod p or at B as $(Y^A)^{XB}$ mod p

Key calculated at A, K_A=$(Y_B)^{XA}$ mod p=5 mod 23 = 10

Key calculated at B, K_B=$(Y_A)^{XB}$ mod p=21^7 mod 23 = 10

Q28

1280 bytes

Solution

Bandwidth B = 512Mbps = $512*10^6$ bits/sec
Distance d = 2km
Speed of signal V = 2,00,000 kmps = $2 * 10^5$ km/s
For CSMA – CD, to detect collision, $T_{trans} >= 2Tprop$
Propagation delay T_{prop} = Distance/Speed of signal = $2km/(2 \times 10^5$ km/sec) = 10^{-5} sec
Transmission delay T_{trans} = Size of data/Bandwidth = $L/(512*10^6$ bits/sec)
Since $T_{trans} > 0 = 2T_{prop}$
$L = 2 * 10^{-5}$ sec $* 512 * 10^6$ bits/sec
= 10240 bits = 1280 bytes

Q29

01110

Solution

M = 1010001101

Divisor polynomial: 1.x5 +1.x4+0.x3+1.x2+0.x1+1.x0

Divisor polynomial bit= 110101

Bits to be appended to message= (divisor polynomial bits – 1) = 5

Append 5 zeros to message bits, modified message: 101000110100000

Q30

Mesh

Solution

No Solution