DATE : 05/11/2017 ANDHRA PRADESH

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Pvt. Ltd.)

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Time : 3 Hours

Answers & Solutions

Max. Marks : 200

for

NTSE (Stage-I) 2017-18

INSTRUCTIONS TO CANDIDATES

1. Use blue/black ball point pen only. There is no negative marking.
2. This test booklet contains 200 questions of one mark each. All the questions are compulsory.
3. Part-I : MAT : 1 - 50 questions

   Part-II : Language : 51 - 100 questions

   Part-III : SAT : 101 - 200 questions
4. Answer each question by darkening the one correct alternative among the four choices on the OMR Sheet with blue/black ball point pen.

   Example :

	Q. No.	Alternatives
Correct way :	1	① ② ● ④
	Q. No.	Alternatives
Wrong way :	1	⊗ ② ③ ④

   Student must darkening the right oval only after ensuring correct answer on OMR Sheet.
5. Disparity in mentioning (SC, ST & PH) in application form and OMR Sheet can make your candidature invalid.
6. Students are not allowed to scratch/ alter/ change out an answer once marked on OMR Sheet, by using white fluid/ eraser/ blade/ tearing/ wearing or in any other form.
7. Separate Sheet has been provided for rough work in this test booklet.
8. Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.

   *Take all your question booklets with you.
9. Darken completely the ovals of your answers on OMR Sheet in the time limit allotted for that particular paper.
10. Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.
11. Use of electronic gadgets, calculator, mobile etc., is strictly prohibited.

PART-I : MENTAL ABILITY TEST (MAT)

Directions (Q.1 to Q.5) : *In the Number series given below, one number is missing. Each series is followed by five alternatives (1), (2), (3), (4) and (5). One of them is the right answer. Identify and indicate it as per the "Instructions".*

1. 13, 74, 290, 650, ...
   (1) 1248 (2) 1470
   (3) 1346 (4) 1452
   (5) 1625

Answer (No Key)

2. 1, 11, 35, 79, ...
   (1) 81 (2) 93
   (3) 149 (4) 124
   (5) 136

Answer (3)

Sol. 1, 11, 35, 79, (149)

10 24 44 70

14 20 26

3. 1, 5, 15, 34, ...
   (1) 50 (2) 48
   (3) 37 (4) 65
   (5) 72

Answer (4)

Sol. 1, 5, 15, 34, (65)

4 10 19 31

6 9 12

4. 3, 13, 31, 57, ...
   (1) 65
   (2) 72
   (3) 88
   (4) 94
   (5) 91

Answer (5)

Sol. 3, 13, 31, 57, (91)

10 18 26 34

8 8 8

5. 2, 35, 104, 209, ...
   (1) 350 (2) 248
   (3) 256 (4) 311
   (5) 413

Answer (1)

Sol. 2, 35, 104, 209, (350)

33 69 105 14

36 36 36

Directions (Q.6 to Q.10) : *In each of the following questions, a letter series is given, III which some letters are missing. The missing letters are given in the proper sequence as one of the alternative. Find the correct* alternative.

6. A.....BBC.....AAB.....CCA.....BBCC
   (1) BACB (2) ABBA
   (3) CABA (4) AABC
   (5) ACBA

Answer (5)

Sol. AAB|BCC|AAB|BCC

7. BC....B....C....B....CCB
   (1) BBCB (2) CBBC
   (3) CBCB (4) BCBC
   (5) CCBB

Answer (3)

Sol. BCCB|BCCB|BCCB

8. C.....BBB.....ABBBB.....ABBB.....
   (1) BACBB (2) AABCB
   (3) ABACB (4) ABCCB
   (5) ABBCC

Answer (4)

9. C.....BCCD.....CCDB.....CDBCC.....BC
   (1) DBCD (2) DBDD
   (3) BDAA (4) BDCD
   (5) DCBD

Answer (1)

Sol. CDBC|CDBC|CDBC

10. BA.....B.....AAB.....A.....B

(1) AABB (2) BABB

(3) BAAB (4) ABBA

(5) ABAA

Answer (4)

Sol. BAAB | BAAB.....

Directions (Q.11 to Q.15) : *Questions have become wrong due to wrong order of signs. Choose the correct order of signs from the five alternatives given under each question, so that the equations , becomes right. Write it in your answer sheet against the corresponding question number.*

11. $6 + 3 = 4 \times 22$

(1) $\times + =$ (2) $+ - \times$

(3) $= \times -$ (4) $+ - =$

(5) $+ \times -$

Answer (1)

12. $12 \div 3 = 4 \times 11$

(1) $+ \div =$ (2) $\times + =$

(3) $+ - =$ (4) $\times = -$

(5) $\div = \times$

Answer (3)

13. $16 \times 4 \div 3 = 7$

(1) $\div \times =$ (2) $- \div =$

(3) $+ = -$ (4) $+ - =$

(5) $\div + =$

Answer (5)

14. $7 \div 3 = 8 - 13$

(1) $\div + =$ (2) $\times - =$

(3) $\div = +$ (4) $- + =$

(5) $- \times =$

Answer (2)

15. $15 - 3 \times 4 = 9$

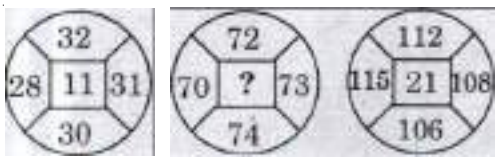
(1) $+ \times =$ (2) $\times - =$

(3) $+ - =$ (4) $\div + =$

(5) $+ \div =$

Answer (4)

Directions (Q.16 to Q.20) : *In these questions, numbers are placed in the figures on the basis of some rules. One place is vacant which is indicated as '?'. Find out the correct alternatives to replace the question mark '?'*

16. 

(1) 14 (2) 15

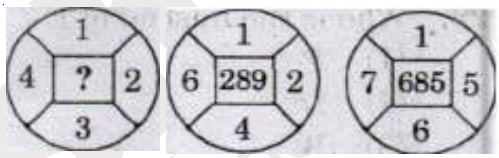
(3) 16 (4) 17

(5) 18

Answer (4)

Sol. $32 + 28 + 31 + 30 = 121 \rightarrow 11^2$

$72 + 70 + 73 + 74 = 289 \rightarrow 17^2$

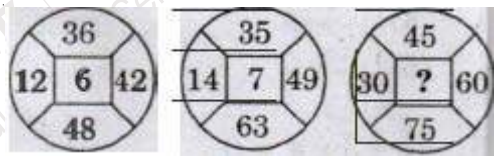
17. 

(1) 14 (2) 15

(3) 16 (4) 17

(5) 18

Answer (No Key)

18. 

(1) 12

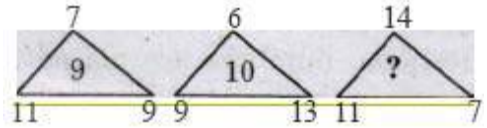
(2) 15

(3) 18

(4) 21

(5) 24

Answer (2)

19. 

(1) 7 (2) 9

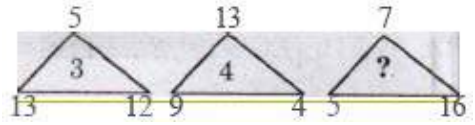
(3) 4 (4) 5

(5) 10

Answer (5)

Sol. $11 + 7 - 9 = 9$

$14 + 7 - 11 = 10$

20. 

(1) 5 (2) 4
(3) 10 (4) 8
(5) 6

Answer (5)

Sol. $5 + 13 + 12 = 30$

Digits difference is 3

$7 + 5 + 16 = 28$

Digits difference is 6

Directions (Q.21 to Q.25) : *Some letters are given in column I and some digits are given in column II. Each digit of column II represents any letter of column 1. Study the columns and write the alternative letter after choosing the correct alternative against the corresponding question.*

Column – I	Column – II
ABLMS	24538
QRLBA	93526
PTQAB	52601
LRNPQ	93716
ATRNP	29071
MSPTQ	84106
QPNAR	16729
RABLS	29583
TSLBA	80325
PLQST	31860

21. The code for M is.....
(1) 0 (2) 8
(3) 1 (4) 6
(5) 4

Answer (5)

22. The code for N is .....
(1) 9 (2) 6
(3) 1 (4) 7
(5) 2

Answer (4)

23. The code for A is .....
(1) 9 (2) 5
(3) 2 (4) 8
(5) 3

Answer (3)

24. The code for S is .....
(1) 3 (2) 2
(3) 5 (4) 0
(5) 8

Answer (5)

25. The code for P is .....
(1) 3 (2) 8
(3) 0 (4) 1
(5) 6

Answer (4)

Directions (Q.26 to Q.30) : *There are six persons in a family A, B, C, D, E and F.*

(i) C is the sister of F.
(ii) A is the brother of the husband of E.
(iii) D is the father of A and D is the grand father of F.
(iv) There are two fathers , three brothers and a 'mother in the family.

On the basis of above details, choose the correct alternative.

26. What is the relationship between E and F?
(1) Daughter (2) Son
(3) Husband (4) Grandson
(5) Father-in-Law

Answer (2)

27. Who is the mother?
(1) E (2) D
(3) C (4) B
(5) A

Answer (1)

28. How many male members are there in this family?
(1) One (2) Two
(3) Three (4) Four
(5) Five

Answer (4)

29. Who is the husband of E?
(1) F (2) D
(3) B (4) C
(5) A

Answer (3)

30. How many persons are there in the category of brothers?
(1) 1 (2) 2
(3) 4 (4) 2
(5) 3

Answer (5)

Directions (Q.31 to Q.35) : *There are four terms in each .question. The term right to symbol .. have some relationship as the term of the left to symbol :: and out of the four, one term is missing, which is among one of the given five alternatives. Find the correct alternatives.*

31. KMF : LLH :: RMS : ...?...

(1) TVT (2) SUS

(3) SLR (4) SSU

(5) SLU

Answer (5)

Sol. K M F : L L H (+1, -1, +2) ; R M S : S L U (+1, -1, +2)

32. GFH : EGG :: ...?... : FSS

(1) GHF (2) HRT

(3) HGF (4) HFG

(5) GEF

Answer (2)

Sol. G F H : E G G (-2, +1, -1) ; H R T : F S S (-2, +1, -1)

33. UVST : WTUR :: ...?... : RILO

(1) PKJQ (2) TSUV

(3) UVTS (4) TSVU

(5) SRUT

Answer (1)

Sol. U V S T : W T U R (+2, -2, +2, -2) ; P K J Q : R I L O (+2, -2, +2, -2)

34. Newspaper : Editor :: Film : ...?...

(1) Actor (2) Producer

(3) Director (4) Musician

(5) Audience

Answer (3)

35. Smoke : Pollution :: War : ...?...

(1) Victory

(2) Death

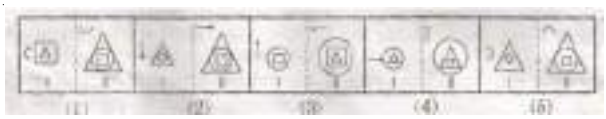
(3) Army

(4) Enemy

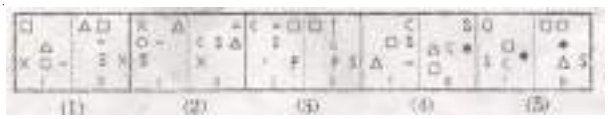
(5) Treaty

Answer (2)

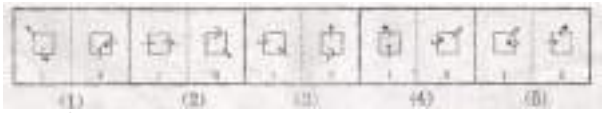
DirectionIs (Q.36 to Q.40) : *In each of the following questions, in four out of the five figures of element I is related to element II in some particular way. Find out the figure in which the element is not related ·to element II.*

36. 

Answer (1)

37. 

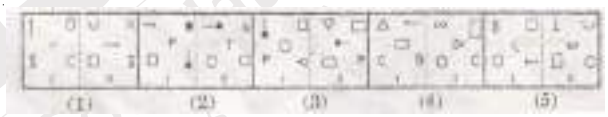
Answer (4)

38. 

Answer (3)

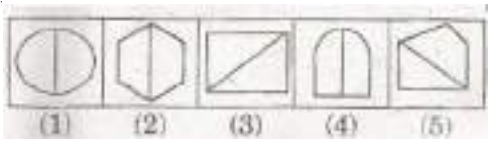
39. 

Answer (5)

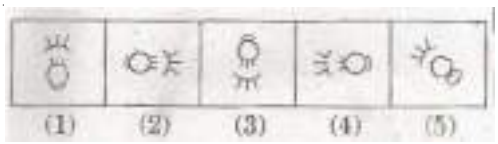
40. 

Answer (2)

DirectionIs (Q.41 to Q.45) : *Out of the five figures (1), (2), (3), (4), (5) given in each problem, four are similar in a certain way. Choose the figure which is different from the other figures.*

41. 

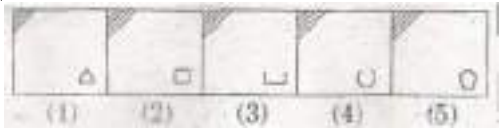
Answer (5)

42. 

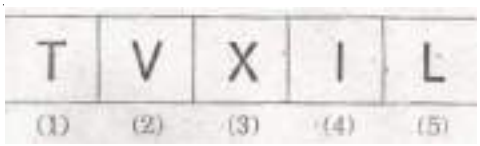
Answer (5)

43. 

Answer (4)

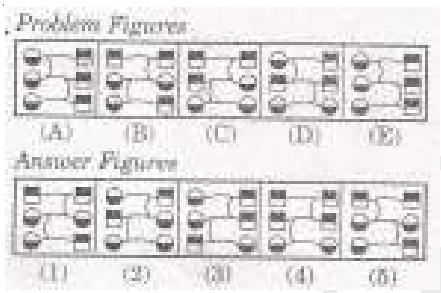
44. 

Answer (4 (or) 5)

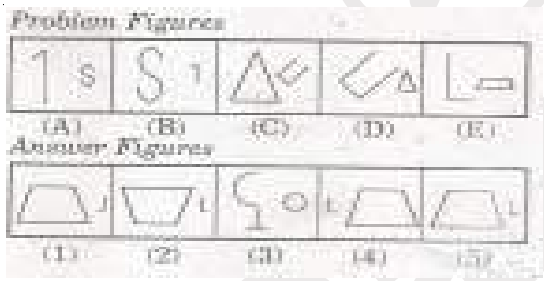
45. 

Answer (4 (or) 5)

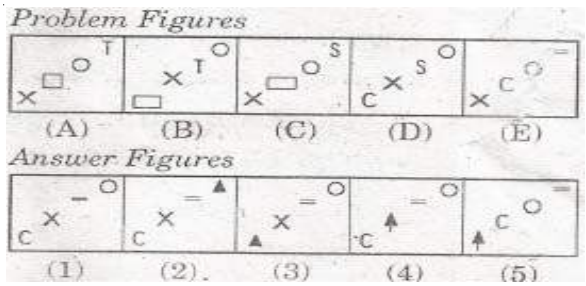
DirectionIs (Q.46 to Q.50) : *Each of the following questions consists of the five figures marked A, B, C, D and E called the problem figures followed by five alternatives marked 1, 2, 3, 4 and 5 called the answer figures. Select a figure which will continue the same series established by the five problem figures.*

46. 

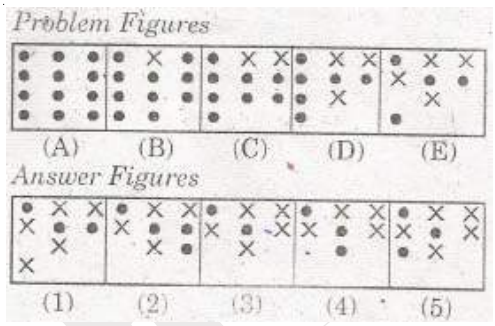
Answer (1)

47. 

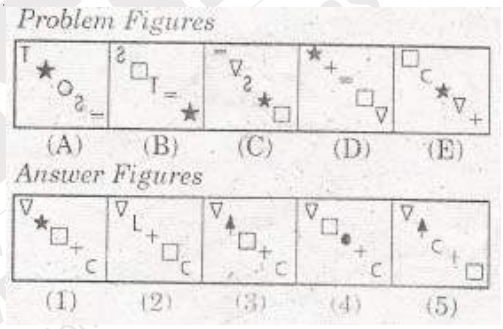
Answer (5)

48. 

Answer (3)

49. 

Answer (3)

50. 

Answer (3)

PART-II : LANGUAGE TEST

Direction (Q.51 to Q.55) : *Read the following passage and answer the questions given after it.*

Nationalism, of course, is a curious phenomenon which at a certain stage in a country's history gives life, growth and unity but at the same time, it has a tendency to limit one because one thinks of one's country as something different from the rest of the world. One's perceptive changes and one is continuously thinking of one's own struggles and virtues and failing to the exclusion of their thoughts. The resu.lt is that the same nationalism, which is the symbol of growth for people, becomes a symbol of cessation of that growth in mind. Nationalism, when it becomes successful, sometimes goes on spreading in an aggressive way and becomes a danger internationally. Whatever line of thought you follow, you arrive at the conclusion that some kind of balance must be found. Otherwise something good can turn into evil. Culture, which is essentially good, become not only static but aggressive and something that breeds conflict and hatred, when looked at from a wrong point of view. How will you find a balance, I don't know. Apart from the political and economic problems of the age, perhaps, that is the greatest problem today because behind it, there is tremendous search for something, which cannot be found. We turn to economic theories because they have an undoubted importance. It is folly to talk of culture or even of god, when human beings starve and die. Before one can talk about anything else, one must provide the normal essentials of life to human beings. That is.where economics comes in. Human beings today are not in mood to tolerate this suffering and starvation and inequality, when they. see that the burden is not equally shared. Others profit, while they only bear the burden.

51. Negative national feeling can make a nation .. .
(1) selfish (2) self centred
(3) indifferent (4) dangerous

Answer (4)

52. The greatest problem in the middle of the passage refers to the question .....
(1) how to mitigate hardship to human beings
(2) how to share the economic burden equally
(3) how to contain the dangers of aggressive nationalism
(4) how to curb international hatred.

Answer (3)

53. Aggressive nationalism .....
(1) endagers national unity
(2) leads to stunted growth
(3) breeds threat to international relations
(4) isolates a country

Answer (3)

54. 'Others' in the last sentence refers to .....
(1) other neighbours (2) other nations
(3) other people (4) other communities

Answer (3)

55. Suitable title for this passage is .....
(1) Nationalism and national problems
(2) Nationalism is not enough
(3) Nationalism breeds unity
(4) Nationalism, a road to world unity

Answer (1)

Direction (Q.56 to Q.60) : *Read the following passage and answer the questions given after it.*

Nehru was a many sided personality. He enjoyed reading and writing books, as much as he enjoyed fighting political and social evils or residing tyranny. In him, the scientist and the humanist were held in perfect balance. While he kept looking at special problems from a scientific standpoint, he never forgot that we should nourish the total man. As a scientist, he refused to believe in a benevolent power interested in men's affairs. But as a self proclaimed nonbeliever, he loved affirming his faith in life and the beauty of nature. Children he adored. Unlike, Wordsworth he did not see them as trailing clouds of glory from the recent sojourn in heaven. He saw them as a blossoms of promise and renewal, the only hope for mankind.

56. Nehru thought that children .....
(1) were trailing clouds of glory
(2) held promise for a better future
(3) were like flowers to be loved and admired
(4) held no hope for mankind

Answer (2)

57. Nehru enjoyed .....
(1) reading and writing books.
(2) fighting with benevolent power.
(3) respecting tyranny
(4) resisting believers as he is a self proclimed non believer.

Answer (1)

58. Which of the statements reflects Nehru's point of view?
(1) Humanism is more important than science
(2) Science is supreme and humanism is subordinate to it
(3) Science and humanism are equally important
(4) There is no ground between humanism and science

Answer (3)

59. In this passage, "a benevolent power interested in men's affairs" means.....
(1) beauty of nature
(2) a supernatural power of god
(3) the spirit of science
(4) the total man

Answer (2)

60. A many sided personality means .....
(1) a complex personality
(2) a secretive person
(3) a person having varied interests
(4) a capable person

Answer (3)

Direction (Q.61 to Q.65) : *Read the following passage and answer the questions given after it.*

The casual horrors and real disasters are thrown on a newspaper reader without discrimination. In the contemporary arrangements for circulating the news, an important element, evaluation is always weak and often wanting entirely. There is no point anywhere along the line somewhere someone puts his foot down for certain

and says, "This is important and that does not amount to row of beans; deserves no ones attention and should travel the wires no farther". The junk is dressed up to look as meaningful as the real news.

61. Evaluation of news would imply .....
(1) less dependence on modern systems of communication.
(2) More careful analysis of each news story and its value.
(3) separating beans from junk
(4) discriminating horrors from disasters.

Answer (3)

62. The writer of the above passage ...
(1) seems to be happy with the contemporary arrangements for circulating news.
(2) is shocked by the casual stories about horrors and disasters reported in the newspaper.
(3) wants better evaluation of news before publication
(4) wants to put his foot down on news stories

Answer (2)

63. In the above passage, the phrase "amounts to a row of beans" means that the news .....
(1) is weak and often wanting entirely
(2) deserves no one attention
(3) should travel the wires
(4) is junk, dressed up as real news.

Answer (2)

64. Newspapers lack a sense of discrimination because....
(1) they do not separate the real news from mere sensationalism
(2) they have to accept whatever is received on the wires
(3) limited man power makes serious evolution impossible
(4) people don't see the difference between 'junk' and 'real' news.

Answer (1)

65. The passage implies that .....
(1) there has to be censorship on newspapers.
(2) there is no point in having censorship
(3) newspapers always dress up junk to look real
(4) one has to be strict in selecting news items

Answer (3)

Direction (Q.66 to Q.71) : *In the following passage, there are some numbered blanks. Fill in the blanks by selecting the most appropriate word for each blank.*

Recent discoveries show that Indians of early days **66** to have been highly civilised in many ways. They had massive public buildings and comfortable dwelling houses **67** mostly by brick. They had **68** arrangements **69** good sanitation and an elaborate drainage system. They knew how to write **70** their language which has not yet been **71** was not alphabetic but syllabic like the Sumerian language.

66. (1) intend (2) appear
(3) behave (4) decided

Answer (2)

67. (1) designed (2) formulated
(3) built (4) construct

Answer (3)

68. (1) ignored (2) made
(3) started (4) less

Answer (2)

69. (1) inspite (2) by
(3) from (4) for

Answer (4)

70. (1) but (2) because
(3) while (4) since

Answer (1)

71. (1) talked (2) written
(3) deciphered (4) formed

Answer (3)

Direction (Q.72 & Q.73) : *The following sentences are from a paragraph. The first and the last sentences / parts are given. Choose the order in which the four sentences / parts (PQRS) should appear to complete the paragraph.*

72. S_1 : The dictionary is the best friend of your task
S_2 : .....
S_3 : .....
S_4 : .....
S_5 : .....
S_6 : Soon you will realize that this is an exciting task
P : That may not be possible always
Q : It is wise to look it up immediately
R : Then it must be firmly written on the memory and traced at the first opportunity.
S : Never allow a strange word to pass unchallenged.

Choose the correct sequence from the options given below.

(1) PQRS (2) QRPS
(3) SQPR (4) SPRQ

Answer (3)

73. S_1 : Calcutta, unlike other cities, kept its trams.
S_2 : .....
S_3 : .....
S_4 : .....
S_5 : .....
S_6 : The foundation stone was laid in 1972.
P : As a result, there was horrendous congestion
Q : It was going to be the first in south Asia
R : They run down the centre of the road
S : To ease in, the city decided to build an underground railway line.

Choose the correct sequence from the options given below.

(1) PRSQ (2) RPSQ
(3) PSQR (4) SQRP

Answer (2)

Direction (Q.74 to Q.77) : *For each of the following groups of four words, find the incorrectly spelt word.*

74. (1) Imperative (2) ilicit
(3) imminent (4) immature

Answer (2)

75. (1) logical (2) ludicrucous
(3) lonesome (4) laughter

Answer (2)

76. (1) Periphery (2) advurtise
(3) Courteous (4) indefinite

Answer (2)

77. (1) dismiss (2) dispel
(3) disservice (4) discribe

Answer (4)

Direction (Q.78 to Q.85) : *Select the most appropriate option to fill in the blanks from the given alternatives.*

78. .....you shout at your children, ... they will ignore it.

(1) more / more (2) the more / the more
(3) the more / the most (4) the most / the most

Answer (2)

79. My laddus weren't ... a disaster .... I'd thought they would be, but they didn't taste very good.

(1) such / as (2) so / that
(3) as / as (4) more / than

Answer (1)

80. **Radha :** Your failure in the exam comes down to your lack of studying.

Uzma : I Know. I needed to have ...

(1) prepared thoroughly more
(2) thoroughly more prepared
(3) thorough preparation more
(4) prepared more thoroughly

Answer (4)

81. Anyone wishing to work as a secret agent must first undergo a ..... background investigation.

(1) tiny (2) handy
(3) stingy (4) stringent

Answer (4)

82. **A:** Did Priya apologize after the argument?
B: No, but she ... do so soon.

(1) had better (2) would rather
(3) better had to (4) should rather

Answer (4)

83. If you refuse to work hard, your endeavors will amount ... nothing.

(1) for (2) to
(3) with (4) by

Answer (2)

84. There is no reason ... over spilled milk.

(1) to cry (2) to save
(3) to serve (4) to boil

Answer (1)

85. Grain is commonly used as ..... for animals.

(1) commodity (2) fodder
(3) implements (4) fumigation

Answer (2)

Direction (Q.86 to Q.90) : *Choose the one which best expresses the meaning of the given phrase.*

86. At. close quarters

(1) close examinations
(2) live near to each other
(3) live far to each other
(4) in love

Answer (2)

87. an apple of discord

(1) cause of wealth (2) cause of quarrel
(3) cause of happiness (4) cause of illness

Answer (2)

88. At large
(1) very famous (2) not famous
(3) abscond (4) very far

Answer (3)

89. take the bull by horns
(1) face a difficulty or danger confidently
(2) run away from a difficulty or danger
(3) face a difficulty or danger boldly
(4) pull the bull's horns

Answer (3)

90. buckle down
(1) work seriously (2) take it easy
(3) drop a subject (4) go for a vacation

Answer (1)

Direction (Q.91 to Q95) : *Select the word which means the same as the given words.*

91. abandon
(1) try (2) join
(3) keep with (4) forsake

Answer (4)

92. detest
(1) love (2) to hate intensely
(3) neglect (4) to support

Answer (2)

93. tentative
(1) prevalent (2) portable
(3) wry (4) provisional

Answer (4)

94. Obscure
(1) block (2) vague
(3) obstruct (4) vague

Answer (2, 4)

95. Specific
(1) proper (2) uncommon
(3) noteworthy (4) precise

Answer (4)

Direction (Q.96 to Q.100) : *Select the word which means the opposite of the given word.*

96. open minded
(1) zealous (2) prejudiced
(3) shrewd (4) unpretentious

Answer (2)

97. dependable
(1) judgemental (2) patient
(3) fickle (4) cautious

Answer (3)

98. impertinent
(1) healthy (2) respectful
(3) inadequate (4) smooth

Answer (2)

99. extravagance
(1) luxury (2) poverty
(3) economical (4) cheapness

Answer (4)

100. obscure
(1) implicit (2) obnoxious
(3) explicit (4) pedantic

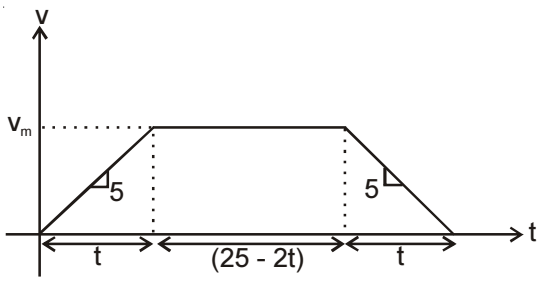
Answer (3)

PART-III : SCHOLASTIC APTITUDE TEST (SAT)

101. A car starts moving along a line, first with an acceleration a = 5ms^{-2} starting from rest, then uniformly and finally decelerating at the same rate, comes to rest in the total time of 25 seconds (t_1), then average velocity during the time is equal to v = 72 kmph. How long does the particle move uniformly?
(1) 25 Seconds (2) 2.5 hours
(3) 1.5 Hours (4) 15 Seconds

Answer (4)

Sol. : Sol. $a = 5\ m/s^2$; $u = 0$



$v_m = 5t$

$$v_{avg} = \frac{s_{tot}}{t_{tot}} \Rightarrow 20 = \frac{2\times\frac{1}{2} + v_m + v_m(25-2t)}{t_{25}}$$

$\Rightarrow 20\times25 = 5t^2 + 125t - 10t^2$

$\Rightarrow 5t^2 - 125t + 500 = 0$

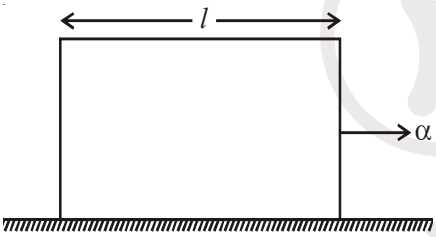
$\Rightarrow t^2 - 25t + 100 = 0$

$$t = \frac{25 \pm \sqrt{625-400}}{2} = \frac{25\pm15}{2}$$

t = 5s (or) $t = \frac{40}{2} = 20s$

$\therefore$ Time for uniform motion is = 25 - 2(5) = 15s

102. A uniform rod of length 'L ' and density 'p' is being pulled along a smooth floor with horizontal acceleration a as shown in the figure. The magnitude of the stress at the transverse crosssection through the mid-point of the rod is .....

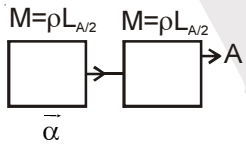


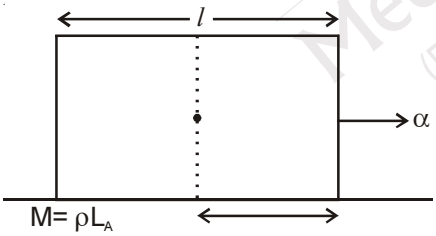
(1) $\frac{\rho l\alpha}{4}$ (2) $4\rho l\alpha$

(3) $2\rho l\alpha$ (4) $\frac{\rho l\alpha}{2}$

Answer (4)

Sol.





$$\therefore \frac{\rho LA}{2}\alpha = T \Rightarrow stress = \frac{T}{A} = \frac{\rho L\alpha}{2}$$

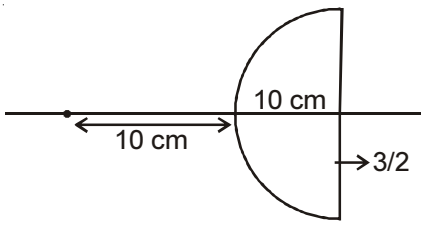
103. An object is placed at a distance of 10 cm from the curved surface of a glass hemisphere of radius 10 cm. Find the position of the image from the flat surface.

(1) 26.67 cm (2) 2.67cm

(3) 2 cm (4) 19.67 cm

Answer (1)

Sol.



For refraction at spherical surface

$$\frac{n_2}{v} - \frac{n_1}{u} = \frac{n_2 - n_1}{R}$$

$$\Rightarrow \frac{3/2}{v} - \frac{1}{(-10)} = \frac{1/2}{10}$$

$$\Rightarrow \frac{3}{2V} = \frac{1}{20} - \frac{1}{10}$$

$$\Rightarrow \frac{3}{2v} = -\frac{1}{20}$$

$\Rightarrow v = -30cm$

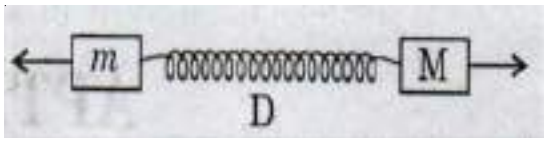
$\therefore$ Image is at 30 cm behind curved sufrace when seen from glass

$\therefore$ From flat face it is at 40 cm in glass when it is observed from air

$$d_{app} = \frac{d}{\mu} = \frac{40}{(3/2)}$$

$$= \frac{2}{3}\times40 = 26.67cm$$

104. A dynamometer D (a force meter) is attached to two masses M=10 kg and *m* = 1 kg. Forces F = 2kgf and *f* = 1 kgf are applied to .the masses. Find out in which of the case gives maximum reading.



(A) F is applied to M and *f* to *m.*

(B) F is applied to *m* and F to M.

(C) If M = *m* = 5 kg. (Ignore *m,* M values in the problem).

(D) IfM is doubled to *m.* (Ignore *m,* M values in the problem).

(1) A

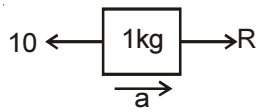
(2) B

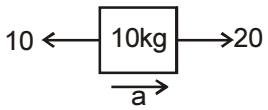
(3) C

(4) D

Answer (2)

Sol. When F is applied to M & f to m



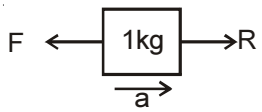


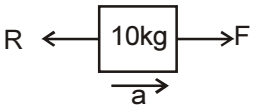
$$a = \frac{20-10}{11} = \frac{10}{11}$$

$$\therefore R - 10 = 1(a)$$

$$\Rightarrow R = 10 + \frac{10}{11} = \frac{120}{11} N$$

When F is applied to m & f is to M.





$$a = \frac{10}{11}$$

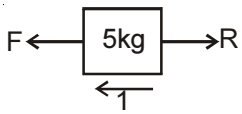
20 - R = 1(a)

$$\Rightarrow R = 20 - \frac{10}{11}$$

$$\Rightarrow R = \frac{210}{11} N$$

When M = m = 5 kg

$$a = \frac{20-10}{10} = 1 m/s^2$$

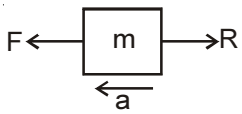


20 - R = 5(1)

$$\Rightarrow R = 15N$$

When M = 2m

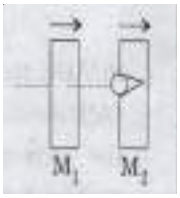
$$a = \frac{20-10}{3m} = \frac{10}{3m}$$



$$20 - R = m\left(\frac{10}{3m}\right)$$

$$\Rightarrow R = 20 - \frac{10}{3} = \frac{50}{3} N$$

105. A 20g bullet pierces through a plate of mass Ml = 1 kg and then comes to rest inside a second plate of mass M2 = 2.98 kg as shown in the figure. It is found that the two plates initially at rest and now move with equal velocities. Find the percentage loss in the initial velocity of the bullet when it is between M_1 and M_2. (Neglect any loss of material of the plates due to the action of bullet).



(1) 15% (2) 25%

(3) 50% (4) 72.5%

Answer (2)

Sol. Let u $\rightarrow$ initial velocity of bullet

$v \rightarrow$ velocity of bullet between plates

$v^1 \rightarrow$ velocity of M_1 & (bullet + M_2)

$$\therefore \frac{1}{2} m_b (u^2 - v^2) = \frac{1}{2} M_1 v^{1^2}$$

$$v^1 = \frac{m_b v}{m_b + M_2} = \frac{20 \times 10^{-3} \times v}{0.02 + 2.98} = \frac{20V \times 10^{-3}}{3}$$

$$m_b u = m_b v + M_1 v^1$$

$$\Rightarrow M_1 v^1 = m_b (u - v)$$

$$\Rightarrow v^1 = \frac{m_b (u-v)}{M_1}$$

$$\frac{m_b v}{m_b + M_2} = \frac{m_b (u-v)}{M_1}$$

$$\Rightarrow \frac{v}{3} = \frac{u-v}{1}$$

$$\Rightarrow \frac{4v}{3} = u \Rightarrow v = \frac{3u}{4}$$

$$\therefore u\% = \frac{u-v}{u} \times 100$$

$$= \frac{u - 3u/4}{4} \times 100 = 25\%$$

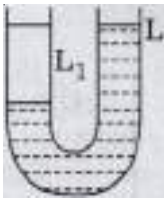
106. A U-tube of uniform cross-section (see fig) is partially filled with a liquid L. Another liquid L_1which does not mix with liquid L is poured into one side. It is found that the' liquid levels of two sides of the tube are the same. While level of liquid L has risen by 2 cm. If the specific gravity of liquid L is 1.1, the specific gravity of liquid L_1must be .....

(1) 1.1 (2) 1.3

(3) 1.001 (4) 1.0

Answer (1)

Sol.



$\therefore \rho_{L_1} g(4cm) = \rho_L g(4cm) \Rightarrow \rho_{L_1} = \rho_L = 1.1$

107. The roadway bridge over a canal is in the form of an arc of a circle of radius 20m. What is the maximum speed with which a car can cross the bridge without leaving the ground at the highest point.

(1) 10 ms^{-1} (2) 12 ms^{-1}

(3) 14 ms^{-1} (4) 16 ms^{-1}

Answer (3)

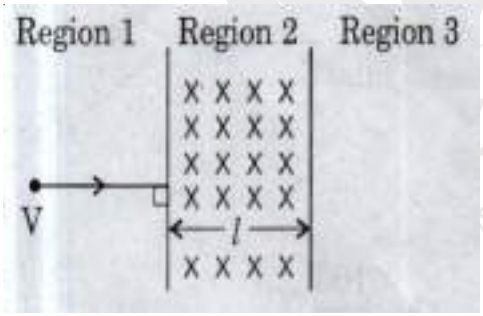
Sol. R = 20m;

$\frac{v^2}{R} = g \Rightarrow v = \sqrt{Rg}$

$\Rightarrow v = \sqrt{20 \times 10} = \sqrt{200}$

$\Rightarrow v_{max} = 14 m/s$

108. A particle of mass M and charge *q* moving with velocity *u* enters Region-2 normal to the boundry as shown in the figure. Region-2 has uniform magnetic field B perpendicular to the plane of the paper. The length of the Region-2 is I. Choose the correct choice.



(A) The particle enters Region-3 only, if its velocity $u > q\ I\ B / m$.

(B) The particle enters Region-3 only, if its velocity $u < q$ 1B / *m*.

(C) Path length of the particle in Region-2 is maximum when velocity $u = q\ I\ B / m$.

(D) Time spend in Region-2 is same for any velocity *u* as long as the particle return to Region-I.

(1) A only true (2) A, C True

(3) A,C,D true (4) All are true

Answer (3)

Sol. $\gamma = \frac{mv}{qB} \Rightarrow If\ v = \frac{q\gamma B}{mv}$

If $\ell < \gamma$ enters region 3

$\ell < \frac{mv}{qB} \Rightarrow v > \frac{q\ell B}{m}$

T independent of $v\left(T = \frac{qB}{2\pi m}\right)$

If $v = q\ell B / m$ path length is maximum.

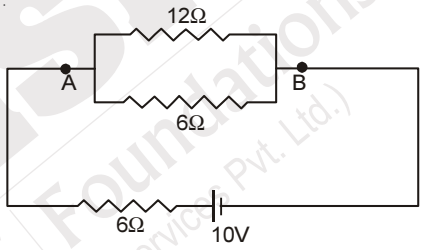
109. 6 Ω and 12 Ω r esistors are connected in parallel. This combination is connected to series with a 10 V battery and 6 Ω res istor. What is the potential difference between the terminals of the 12 Ω resistor ?

(1) 14V (2) 16V

(3) 10V (4) 4V

Answer (4)

Sol.



V_{AB} = ?

$R_{eff} = 6 + \frac{12 \times 6}{12 + 6} = 10\Omega$

$I = 1A$

$\therefore V_{AB} = 10 - 6 \times 1 = 4V$

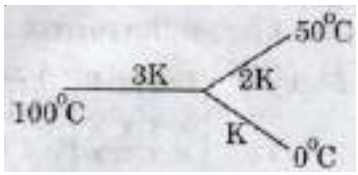
110. Three rods of same dimensions have thermal conductivity 3K, 2K, and K. They are arranged as show in the figure below. Then the temperature of the junction in steady state is

(1) $\frac{100}{3}{}^0C$ (2) $\frac{200}{3}{}^0C$

(3) 75^0C (4) $\frac{50}{3}{}^0C$

Answer (2)

Sol.



$\left(\frac{d\theta}{dt}\right)_1 = \left(\frac{d\theta}{dt}\right)_2 + \left(\frac{d\theta}{dt}\right)_3$

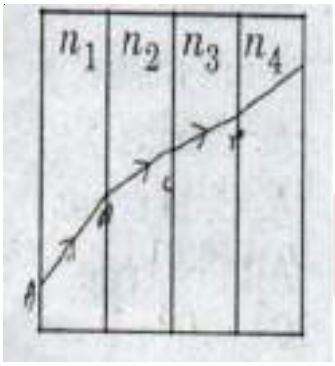
$$\Rightarrow \frac{3K(100-T)}{\ell} = \frac{2K(T-50)}{\ell} + \frac{KA(T-0)}{\ell}$$

$$\Rightarrow 300 - 3T = 2T - 100 + T - 0$$

$$\Rightarrow 6T = 400$$

$$\Rightarrow T = \frac{200}{3}°C$$

111. A ray of light passes through 4 transparent media with refractive index n_1 n_2, n_3, n_4 as shown in the figure. The surface of all the medias are parallel. If the emergent ray CD is parallel to the incident ray AB, we must have ....



(1) $n_1=n_2$ (2) $n_2=n_3$

(3) $n_3=n_4$ (4) $n_4=n_1$

Answer (4)

Sol. If ray in 1st & last medium is parallel then

$$\therefore n_1 = n_4$$

112. The velocity of sound in Hydrogen at 0°C is 1248 *m/s*. What will be velocity of sound in mixture of two parts by volume of Hydrogen to one part of Oxygen ? (Oxygen 16 is times heavier than Hydrogen nearly).

(1) 725 m/s (2) 653 m/s

(3) 510 m/s (4) 430 m/s

Answer (3)

Sol. $v = \sqrt{\frac{\gamma RT}{M}}$

$$v \propto \frac{1}{\sqrt{M}}$$

$$M_{H_2} = 2g, M_{O_2} = 32g$$

$$M_{mixture} = \frac{n_1M_1 + n_2M_2}{n_1 + n_2}$$

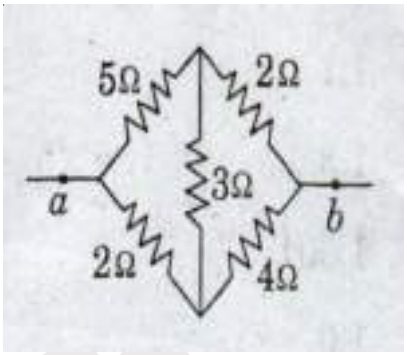
$$= \frac{2(2) + 1(32)}{2+1} = 128$$

$$\frac{V_{H_2}}{V_{mix}} = \sqrt{\frac{M_{mix}}{M_{H_2}}}$$

$$\frac{1248}{v_{mix}} = \sqrt{\frac{12}{2}}$$

$$v_{mix} = \frac{1248}{\sqrt{6}} = 510 m/s$$

113. Calculate the equivalent resistance between *a* and *b* of the following network of conductors.

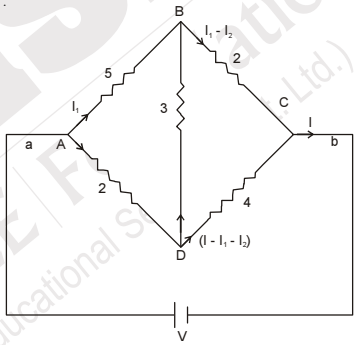


(1) 4Ω (2) 5Ω

(3) 3Ω (4) 2Ω

Answer (3)

Sol.



$$5I_1 + 2(I_1 + I_2) = v \Rightarrow 7I_1 + 2I_2 = v \rightarrow (1)$$

$$2(I - I_1) + 4(I - I_1 - I_2) = v \Rightarrow 6I - 6I_1 - 4I_2 = v \rightarrow (2)$$

$$5I_1 - 3I_2 - 2(I - I_1) = 0 \Rightarrow 6I_1 - 3I_2 - 2I = 0 \rightarrow (3)$$

$$2I_1 + 2I_2 - 4I + 4I_1 + 4I_2 + 3I_2 = 0$$

$$\Rightarrow 6I_1 + 9I_2 - 4I = 0 \rightarrow (4)$$

(2) & (3) $4I - 7I_2 = V \rightarrow (5)$

(2) & (4) $2I + 5I_2 = V \rightarrow (6)$

(5) & (6) $\Rightarrow$ $4I - 7I_2 = v$

$4I + 10I_2 = 2v$

$17I_2 = v$

$$\therefore 2I + 5\left(\frac{v}{17}\right) = v \Rightarrow 2I = \frac{12v}{17} \Rightarrow I = \frac{6v}{17}$$

$$\therefore \frac{v}{I} = \frac{17}{6} \approx 3\Omega$$

114. Some rocket engines use a mixture of Hydrazine, N_2H_4 and Hydrogen peroxide, H_2O_2 as the propellant. The' reaction is given by the following equation.

$N_2H_4(l) + .2H_20_2(l) \rightarrow N_2g + 4H_2O(g)$

How much of the excess reactant, remains unchanged ? When 0.750 mol of N_2H_4 is mixed with 17 g of H_2O_2?

(1) 16g N_2H_4 (2) 0.25 mol H_2O_2

(3) 0.25 mol N_2H_4 (4) 8.5gm H_2O_2

Answer (1)

Sol. : $N_2H_4(l) + .2H_20_2(l) \rightarrow N_2g + 4H_2O(g)$

by balance equation

1 mol of $N_2H_4 \rightarrow 68gm$ *of* H_2O_2

? $\rightarrow 17gm$ *of* H_2O_2

$$\frac{17X1}{68} = 0.25mol$$

$\therefore$ 0.25 mol of N_2H_4 reacted

Amount of N_2H_4 taken = 0.75mol

Amount of N_2H_4 left = 0.75-0.25

= 0.5 mol

= 16gm

115. Which one of the fo llowing combinations is false?

Solution type	*Particle .size*
(1) Colloidal solution	10^{-5} to 10^{-7} cm
(2) True solution	10^{-7} to 10^{-8} cm
(3) Suspension	10^{-9} to 10^{-12} cm
(4) All are correct combinations	

Answer (3)

Sol. : Suspension particle size should be greater than 1 micron or 10^{-6} meters

116. Which of the following is not an Oxidation reaction?

(1) Bleaching of coloured objects using moist Chlorine.

(2) Rancidity of fats.

(3) Thermite process involving the rea ction of Iron (III) oxide (or) Chromium (III) oxide, etc. , with Aluminium.

(4) The poling process involving the r emoval of impurities from a molten metal.

Answer (3)

Sol.: **Ambiquity** in the question all are coming redox reaction if we consider all options in order of sentence the Option getting **(3)**

117. The gaseous hydrocarbon Acetylene, C_2H_2 used in welder's torches; releases 1300 KJ, when 1 mole of C_2H_2 undergoes combustion, then which of the following is not true?

(1) Combustion of Acetylene is an exothermic reaction.

(2) The balanced chemical reaction of combustion of Acetylene is : $C_2H_2 + 5O_2 \rightarrow 2CO_2 + H_2O$

(3) 2 moles of water produced when 2 moles of Acetylene reacts.

(4) 44 g of CO_2 produced, when 13 g of Acetylene reacts

Answer (2)

Sol. : The balanced chemical reaction is

$2C_2H_2 + 5O_2 \rightarrow 4CO_2 + 2H_2O$

118. Following are the representative wave-lengths in the Infra-red, Ultra-violet and X-ray regions of the electromagnetic spectrum 1.0×10^{-6} m, 1.0×10^{-8} m and 1.0×10^{-10} m. Which of the following statements is false ?

(1) The corresponding frequencies of X-ray, UV and IR are in the ratio of $10^4 : 10^2 : 1$.

(2) The corresponding energies of X-ray, UV and IR are in the ratio of $1 : 10^{-2} : 10^{-4}$

(3) The corresponding velocities of X-ray, UV and IR are in the ratio of $1 : 10^2 : 10^4$.

(4) X-rays, UV and IR waves are electromagnetic waves. These are transverse waves.

Answer (3)

Sol. : All EMR's travels with same velocity, which is equals to velocity of light

119. An atom has 2K, 8L and 5M electrons. Choose the correct statement(s) regarding it.

(1) Tri valent anion of this atom will have 12 protons in its nucleus.

(2) Tri valent cation of this atom will have six *p-electrons* in it.

(3) This atom form an amphoteric oxide of formula X_2O_3.

(4) One of its allotrope is tetra atomic (X_4)'

(1) A and B (2) B only

(3) B and C (4) B and D

Answer (4)

Sol. : K(2) L(8) M(5)

Configuration in nl^x method

$1s^2 2s^2 2p^6 3s^2 3p^3$

$X \xrightarrow{-3e^-} X^{+3}$

trivalent metal cation

$X^{+3} = 1s^2 2s^2 2p^6 3s^2 3p^3$

$\therefore$ p electron = 6

As per the configuration the element is phosphorous it exit as X_4

120. Chlorine (Cl) and Oxygen form four different binary compounds... , Analysis gives the following results:

Compound	*Mass of 0 combined with 1.0g Cl*
A	*0.226g*
B	*0.903g*
C	*1.354g*
D	*1.579g*

Compound A has a formula that is some multiple of Cl_2O, then which of the following is incorrectly said?

(1) Compound B is Cl_2O_5 (or Cl_4O_{10}, or Cl_6O_{15}, and so forth).

(2) Compound C is Cl_2O_6 (or ClO_3, Or Cl_3O_9 and so forth).

(3) Compound D is Cl_2O_7 (or a multiple there OF.

(4) The above' data show that the law of multiple proportions holds for these compounds.

Answer (1)

Sol. Mass of oxygen:

Wt% = 0.226 : 0.903 : 1.354 : 1.579

$$n = \frac{0.226}{16} : \frac{0.903}{16} : \frac{1.354}{16} : \frac{1.579}{16}$$

$$= \frac{0.014125}{0.014125} : \frac{0.0564325}{0.014125} : \frac{0084625}{0.014125} : \frac{0.0986875}{0.014125}$$

1 : 4 : 6 : 7

For fixed quantity of 'Cl'

i.e. For 71g of Cl_2O : Cl_2O_4 : Cl_2O_6 : Cl_2O_7

A B C D

121. The reusable booster rockets of the U.S. space shuttle uses a mixture of Aluminium and Ammonium perchlorate for fuel. A possible equation for this reaction is ....

$3Al+3NH_4ClO_4 \rightarrow Al_2O_3+AlCl_3+3NO+6H_2O$

What mass of NH4CI04 should be used in the fuel mixture for every kilogram of Al ?

(1) 3 kg (2) 3.388 kg

(3) 4.351 kg (4) 4 kg

Answer (3)

Sol. : $3Al+3NH_4ClO_4 \rightarrow Al_2O_3+AlCl_3+3NO+6H_2O$

From the balance equation

3X27kg of Al $\rightarrow$ 3(117.5)kg of NH_4ClO_4

1 kg of Al $\rightarrow$?

$$\frac{1X3X117.5}{3X27} = 4.351\,kg$$

122. All of the following processes involve a separation of either a mixture into its components, or a compound into elements. For each, decide whether a physical process or a chemical reaction is required.

a. Sodium metal is obtained from the substance Sodium chloride.

b. Iron filings are separated from sand by usmg a magnet.

c. Sugar crystals are separated from sugar syrup by evaporation of water

d. Fine crystals of Silver chloride are separated from a suspen§ion of the crystals in water.

e. Copper is produced when Zinc metal is placed 111 a solution of Copper (II) sulphate, a compound.

Physical processes	*Chemical processes*
(1) a, b, c	d, e
(2) a, d	b, c, e
(3) b, c, d	a, e
(4) e	a, b, c, e

Answer (3)

Sol: a) Electrolysis of NaCl give Na- Chemical process

b) Iron filings are attracted towards magnet - physical process

c) Evoparation of water from sugar syrup gives sugar crystals - physical process

d) $Zn + Cu^{+2} \rightarrow Zn^{+2} + Cu \rightarrow$ Electrochemical process

123. What mass of Oxygen is combined with 9.02 g of Sulphur in

(a) Sulphur dioxide, SO_2 and

(b) Sulphur trioxide, SO_3 ?

(1) 23.5g O in SO_2 and 19.02g O in SO_3'

(2) 19.02g O in SO_2 and 23.5g O in SO_3'

(3) 9.02g O in SO_2 and 13.5g O in SO_3'

(4) 9.02g O in SO_3 and 13.5g O in SO_2'

Answer (3)

Sol. : SO_2 32gm $\rightarrow$ 32gm of O

$\therefore$ 9.02 $\rightarrow$ 9.02 gm of O

SO_3 32gm $\rightarrow$ 48gm of O

9.02 $\rightarrow$?

$$\frac{9.02X48}{32} = 13.5 \text{ gm}$$

124. On an hypothetical planet the major solvent is "liquid Ammonia, not water. Ammonia auto ionises much like water

($2NH_3 \rightleftarrows NH_4^+ + NH_2^-$) If instead of water, ammonia is used as a solvent, the acid base neutralisation reaction for the formation of NaCl is .....

(1) $NaNH_4+NH_2Cl \rightarrow NaCl+2NH_3$

(2) $NaNH_2+NH_4Cl \rightarrow NaCl+2NH_3$

(3) $NaNH_3+NH_3Cl \rightarrow NaCl+2NH_3$

(4) $NaNH_4+NH_4Cl \rightarrow NaCl+2NH_4^+$

Answer (2)

Sol. : $NaNH_2+NH_4Cl \rightarrow NaCl+2NH_3$

125. The purity of a substance can be gauged by the following, except:

(1) Its melting point. (2) Its boiling point.

(3) Chromatography. (4) Physical appearance

Answer (4)

Sol. : Purity can determine by *melting point, boiling point , Chromotography*

126. You are presented with three bottles A, B, C each containing a different liquid. Bottles are labelled as follows :

Bottle A : ionic compound -Boiling point 30°C

Bottle B : molecular compound -Boiling point 29.2°C

Bottle C : molecular compound -Boiling point 67.1°C

Choose the correct statement:

(1) The compound most likely to be incorrectly identified is bottle A.

(2) The substance in bottle B has strongest intermolecular attractions.

(3) The substance in bottle C is highly volatile.

(4) A pure aqueous solu tion of compound in bottle B is a good conductor of electricity among the three.

Answer (1)

Sol. : Usually ionic compounds have high boiling point.

127. Minamata disease is due to .....

(1) MIC gas (2) Methyl mercury

(3) Lead nitrate (4) Cobalt chloride

Answer (2)

128. The region in brain portion that controls hunger is ...

(1) Medulla (2) Diencephalon

(3) Cerebrum (4) Mid brain

Answer (2)

129. What will happen, if the sperm containing 'X' chromosomes fertilises the Ovum?

(1) Female child born (2) Male child born

(3) Can not guess (4) None

Answer (1)

130. Which is not correct?

(1) Embryology - Aristotle

(2) Taxonomy - Carolus Linnaeus

(3) Paleontology - Leonardo da Vinci

(4) Cytology - Robert Brown

Answer (4)

131. Permanent surgical method for birth control in male human beings is .....

(1) Hysterectomy (2) Dialysis

(3) Tubectomy (4) Vesectomy

Answer (4)

132. Pernicious anemia is caused due to the deficiency of .....

(1) Biotin (2) Calciferon

(3) Cyanocobalamine (4) Ascorbic acid

Answer (3)

133. Match the item in Column I with Column II.

Part I	Part II
(a) Ribosomes	(i) Suicidal bags
(b) Mitochondria	(ii) Control functions of cell
(c) Nucleus	(iii) Protein synthesis
(d) Lysosomes	(iv) Power house of the cell

(1) a - iii, b - iv, c - ii, d - i

(2) a - iii, b - iv, c - i, d - ii

(3) a - iii, b - i, c - ii, d - iv

(4) a - i, b - iii, c - ii, d - iv

Answer (1)

134. The salinity of sea water is .....

(1) 2.5% (2) 3.5%

(3) 4.5% (4) 5.5%

Answer (2)

135. Who discovered blood capillaries?

(1) William Harvey (2) Girolamo Fabrici

(3) Marcello Malpighi (4) Robert Brown

Answer (3)

136. According to Charles Eltion, which is not correct.

(1) Carnivores at the top of the Pyramid

(2) Energy trapping is high at the top of the Pyramid

(3) Producers at the top of the Pyramid

(4) 2 and 3

Answer (4)

137. World conservation strategy was proposed by IUCN in .....

(1) 1948 (2) 1980

(3) 1990 (4) 1993

Answer (2)

138. Choose the incorrect pair.

(1) Ovary - Estrogen (2) Adrenal - Adrenalin

(3) Pituitary - Thyroxine (4) Testis - Testosterone

Answer (3)

139. If a rat is given a mild electric shock when it goes to a certain part of its cage, it eventually avoid going there. This is because of .....

(1) Imitation (2) Conditioning

(3) Instinct (4) Imprinting

Answer (2)

140. The tongue of a person is exposed to a high salty taste, then .....

(1) The person learns to taste salty things better

(2) Loves tasting salty things

(3) Hates tasting salty things

(4) Fails to taste a less salty thing just after the exposure.

Answer (4)

141. When 31513 and 34369 are divided by a certain three digit number, the remainders are equal, then the remainder is

(1) 86 (2) 97

(3) 374 (4) 113

Answer (2)

Sol. : let the three digit number be'x', when 34369, 31513 divided by x leaves reminder 'r' & Quotient p,q respectively then by division algorithm

34369=xp+r -----_- (1)

31513=xq+r ------- (2)

from (1) - (2) x(p-q)=2856 by prime factorization

$x(p-q) = 119 \times 24$

Since x is three digit number let x=119 which leaves reminder 97 when divides 34369,31513

142. The greatest number of four digits which when divided by 3, 5, 7, 9 leaves the remainders 1, 3, 5, 7 respectively, is

(1) 9763 (2) 9673

(3) 9367 (4) 9969

Answer (1)

Sol. : Let the greatest four digit number be 9999

LCM of (3,5,7,9) = 315

when 9999 divided by 315 it leaves reminder 234 hence 9999-234=9765 is exactly divisible by 315

Which means it is also divisible by 3,5,7,9 exactly but given the number leaves reminders 1,3,5,7 when divided by 3,5,7,9 difference between reminders = 2,

so required no. = 9765-2 =9763

143. e *f g h* is a four digit number. One hundredth of *efg h* is the mean of e *f* and *g h,* then the four digit number is

(1) 3648 (2) 4950

(3) 4590 (4) 3468

Answer (2)

Sol. : $\frac{efgh}{100} = \frac{ef+gh}{2}$ from given options efgh=4950 then condition satisfied.

144. If $x^2 + xy + x = 12$ and $y^2 + xy + y = 18$, then the value of x+y is ..

(1) 5 or -6 (2) 3 or 4

(3) 5 or 3 (4) 6 or -3

Answer (1)

Sol. : $x^2 + xy + x = 12$ ---- (1)

$y^2 + xy + y = 18$ --- (2)

from (1) + (2) (x+y) (x+y+1) = 30 let x+y=t then $t(t+1) = 30 \Rightarrow t^2 + t - 30 = 0$

$\Rightarrow (t-5)(t+6) = 0$ Hence x+y =5 or x+y = -6

145. If $217x + 131y = 913$ and $131x + 217y = 827$, then the value of $x + y$ is

(1) 8 (2) 5

(3) 7 (4) 6

Answer (2)

Sol. : $217x + 131y = 913$ ------ (i)

$31x + 217y = 827$ ---------(ii)

from (i) + (ii) $x+y = 5$

146. If $x = \dfrac{1}{2-\dfrac{1}{2-\dfrac{1}{2-x}}}$, $(x \neq 2)$, then the value of x is

(1) 1 (2) 3

(3) 2 (4) 5

Answer (1)

Sol. : $x = \dfrac{1}{2-\dfrac{1}{2-\dfrac{1}{2-x}}}$

$x = \dfrac{1}{2-\dfrac{2-x}{3-2x}} \Rightarrow x = \dfrac{3-2x}{4-3x}$

$\Rightarrow x^2-2x+1=0$

$\Rightarrow (x-1)^2 = 0$

$\Rightarrow x=1$

147. $x_1, x_2, x_3, \ldots$ are in A.P. If $x_1 + x_7 + x_{10} = -6$ and $x_3 + x_8 + x_{12} = -11$, then $x_3 + x_8 + x_{22} = ?$

(1) -21 (2) -15

(3) -18 (4) -31

Answer (1)

Sol. : $x_1 + x_7 + x_{10} = -6 \Rightarrow a+a+6d+a+9d=-6$

$\Rightarrow a+5d=-2$------ (i)

$x_3 + x_8 + x_{12} = -11 \Rightarrow a+2d+a+7d+a+11d=-11$

$\Rightarrow 3a+20d=-11$ --- (ii)

Solving (i) & (ii) we get a=3, d=-1

$x_3 + x_8 + x_{22} = a+2d+a+7d+a+21d=3a+30d$

$x_3 + x_8 + x_{22} = -21$ (since a=3, d=-1)

148. If $\dfrac{2+5+8+\ldots\ldots\text{n.terms}}{7+11+15+\ldots\ldots\text{n.terms}} = \dfrac{23}{35}$ then n value is

(1) 17 (2) 15

(3) 18 (4) 23

Answer (2)

Sol. : 2,5,8 ..... is in AP where $a_1 = 2$, $d_1=5$ & 7,11,15..... is also in AP where $b_1=7$, $d_2=4$ since sum of n-terms in AP is

$S_n = \dfrac{n}{2}[2a+(n-1)d]$

$\dfrac{2+5+8+\ldots\ldots\text{n.terms}}{7+11+15+\ldots\ldots\text{n.terms}} = \dfrac{23}{35}$

$\dfrac{\frac{n}{2}[2(2)+(n-1)5]}{\frac{n}{2}[2(7)+(n-1)4]} = \dfrac{23}{35}$

$\dfrac{3n+1}{4n+10} = \dfrac{23}{35} \Rightarrow n=15$

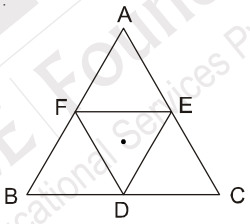
149. If the co-ordinates of the midpoints of the sides of a triangle are (1, 1), (2, -3) and (3, 4), then the centroid of the triangle is ....

(1) $\left(3, \dfrac{1}{3}\right)$ (2) $\left(1, \dfrac{2}{3}\right)$

(3) (3, 1) (4) $\left(2, \dfrac{2}{3}\right)$

Answer (4)

Sol.



in ΔABC, D,E,F are midpoints of sides BC,CA, AB

Hence centriod of ΔABC =centroid of ΔDEF

$= \left(\dfrac{1+2+3}{3}, \dfrac{1-3+4}{3}\right)$

$= \left(2, \dfrac{2}{3}\right)$

150. If two vertices of an equilateral triangle be (0, 0) and $(3, \sqrt{3})$, then the third vertex is ...

(1) $(1, 3\sqrt{3})$ (2) $(0, 2\sqrt{3})$

(3) $(3, \sqrt{3})$ (4) $(1, \sqrt{3})$

Answer (2)

Sol. : (x_1, y_1), (x_2, y_2) are two vertices of an equilateral triangle then its third vertex is

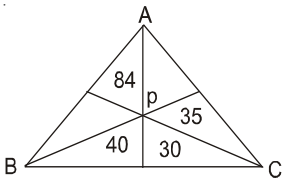
$\left(\dfrac{x_1+x_2 \pm \sqrt{3}(y_1-y_2)}{2}, \dfrac{y_1+y_2 \mp \sqrt{3}(x_1-x_2)}{2}\right)$

by substituting $(x_1, y_1) = (0,0)$, $(x_2, y_2) = (3, \sqrt{3})$

we get third vertex $(0, 2\sqrt{3})$ or $(3, -\sqrt{3})$

hence the answer is $(0, 2\sqrt{3})$

151. As shown in the given figure, ΔABC is divided into six smaller triangles by lines drawn from the vertices through a common interior point. The areas of four of 6 triangles are as indicated, then the area of ΔABC is

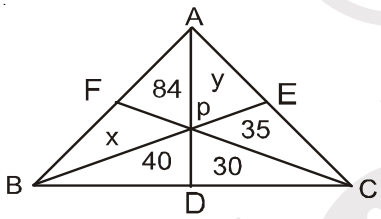


(1) 238 (2) 464

(3) 315 (4) 412

Answer (3)

Sol.



Let area of $(\Delta BPF) = x$, Area of $(\Delta CPE) = y$

then $\frac{BD}{DC} = \frac{ar(\Delta PAB)}{ar(\Delta PAC)} = \frac{ar(\Delta PBD)}{ar(\Delta PDC)}$

$\Rightarrow \frac{84+x}{y+35} = \frac{40}{30} \Rightarrow 3x - 4y = -112$ -----(i)

$\frac{AE}{EC} = \frac{ar(\Delta APB)}{ar(\Delta BPC)} = \frac{ar(\Delta APE)}{ar(\Delta EPC)}$

$\Rightarrow \frac{84+x}{70} = \frac{y}{35} \Rightarrow 2y - x = 84$ -----(ii)

by solving (i) & (ii) we get x=56, y=70

Hence $ar(\Delta ABC) = 84+56+40+30+35+70 = 315$

152. ABC is a right angled triangle with $\angle B = 90^0$, *M* is the midpoint of AC and *BM* = $\sqrt{117}$ cm,

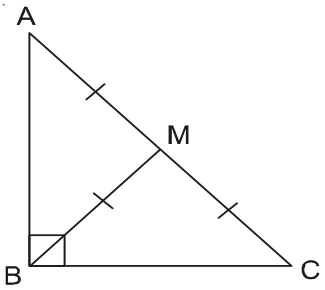
AB + BC=30, then the area of the triangle is

(1) 108 cm^2 (2) 248 cm^2

(3) 316 cm^2 (4) 156 cm^2

Answer (1)

Sol. :



In a right triangle ABC , BM=AM=MC= $\sqrt{117}$

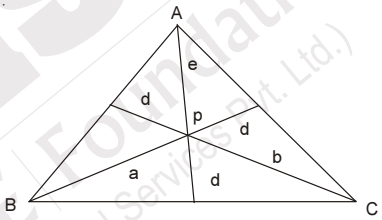
Let AB =x then BC=30-x since AB+BC=30

$x^2+(30-x)^2=(2\sqrt{117})^2$

by solving x=12 or 18

Hence area of $\Delta ABC = \frac{1}{2} X12X18 = 108 cm^2$

153. *Letp* be an interior point of ΔABC and extend lines from the vertices throughp to the opposite sides. Let *a, b,* c and *d* divides the lengths of the segments indicated in the figure. Find the product of *abc,* if *a* + *b* + c = 43 and *d* = 3.

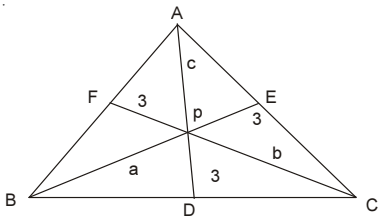


(1) 168 (2) 256

(3) 346 (4) 441

Answer (4)

Sol. :



$\frac{AP}{PE} = \frac{ar.(\Delta APB)}{ar.(\Delta BPE)} = \frac{ar.(\Delta APC)}{ar.(\Delta CPE)} = \frac{ar.(\Delta APB) + ar.(\Delta APC)}{ar(\Delta BPC)}$

$\Rightarrow \frac{a}{3} = \frac{ar.(\Delta APB) + ar.(\Delta APC)}{ar.(\Delta BPC)}$

$\Rightarrow \frac{a+3}{3} = \frac{ar.(\Delta ABC)}{ar.(\Delta BPC)} \Rightarrow \frac{ar.(\Delta BPC)}{ar.(\Delta ABC)} = \frac{3}{a+3}$

Similarly $\frac{ar.(\Delta APB)}{ar.(\Delta ABC)} = \frac{3}{c+3}$

$$\frac{a.(\Delta APC)}{ar.(\Delta ABC)} = \frac{3}{b+3}$$

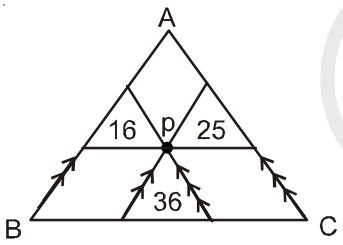
Adding (1), (2) and (3)

$$\frac{a.(\Delta ABC)}{ar.(\Delta ABC)} = \frac{3}{a+3} + \frac{3}{b+3} + \frac{3}{c+3}$$

$$(a+3)(b+3)(c+3) = 3\Sigma(a+3)(b+3)(c+3)$$

$\Rightarrow abc = 441$

154. As shown in the figure in ΔABC, p is an interior point. Through the point p, three lines are drawn parallel to three sides as shown in the figure. If the areas of smaller triangles are 16, 25 and 36 square units respectively, then the area of ΔABC in square units is ....



(1) 324 (2) 196

(3) 225 (4) 784

Answer (3)

Sol. :

$$\Delta ABC \sim \Delta HIP \sim \Delta PDE \sim \Delta GPF$$

$$\frac{ar(\Delta HIP)}{ar(\Delta PDE)} = \left(\frac{IP}{DE}\right)^2 \Rightarrow \sqrt{\frac{16}{36}} = \frac{IP}{DE}$$

IP=4x, DE=6x

$$\frac{ar(\Delta PDE)}{ar(\Delta GPF)} = \left(\frac{DE}{PF}\right)^2 = \sqrt{\frac{36}{25}} = \frac{DE}{PF}$$

DE=6x, PF=5x

IP=BD, PF=EC

$\therefore$ BC =BD+DE+EC=15x

$$\Delta ABC \sim \Delta HIP \Rightarrow \frac{ar(\Delta ABC)}{ar(\Delta HIP)} = \left(\frac{BC}{IP}\right)^2$$

Area of $\Delta ABC = \left(\frac{15x}{4x}\right)^2 X16 = 225$

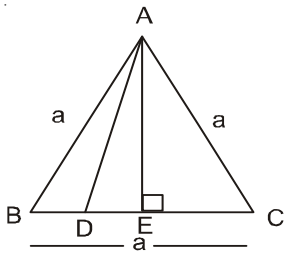
155. In an equilateral triangle ABC, the side BC is trisected at D, then $9AD^2$ is

(1) $7AB^2$ (2) $8BC^2$

(3) $4AC^2$ (4) $\frac{3}{2}AB^2$

Answer (1)

Sol.



$$BD = \frac{a}{3}, EC = \frac{a}{2}, DE = a - \left(\frac{a}{3} + \frac{a}{2}\right) = \frac{a}{6}$$

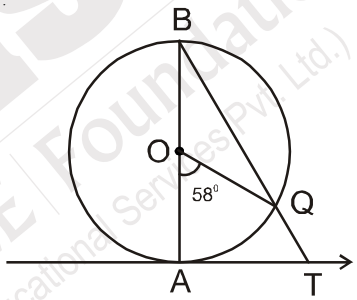
$$AE = \frac{\sqrt{3}}{2}a$$

Now $AE^2 + DE^2 = AD^2$

$$\frac{3}{4}a^2 + \frac{a^2}{36} = AD^2$$

Hence $9AD^2 = 7AB^2$

156. In the given figure, AB is the diameter of a circle with O and AT is a tangent. If $\angle AOQ = 58°$, then the value of $\angle ATQ$ is

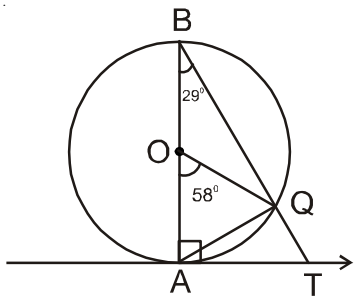


(1) 52^0 (2) 61^0

(3) 46^0 (4) 75^0

Answer (2)

Sol.



Join AQ then $\angle AOQ = 2\angle OBQ$ then $\angle OBQ = 29^0$

Since $OA \perp AT \Rightarrow \angle OAT = 90^0$

Hence $\angle ATQ = 90^0 - 29^0 = 61^0$

157. The radii of two cylinders are in the ratio 2 : 3 and their heights are in the ratio 5: 3, then the ratio of their volumes is

(1) 15:16 (2) 14:17

(3) 20:27 (4) 4:9

Answer (3)

Sol. Let r_1, r_2, radii and h_1,h_2 heights of given cylinders

given $r_1:r_2 = 2:3$, $h_1:h_2 = 5:3$ Let $r_1=2x$, $r_2=3x$, $h_1=5x$, $h_2=3x$

Hence ratio of volumes = $\pi r_1^2 h_1 : \pi r_2^2 h_2$

$= (2x)^2.5x:(3x)^2.3x=20:27$

158. If the area of three adjacent faces of a cuboid are *x, y* and *z* respectively, then the volume of a cuboid is

(1) $\sqrt{xyz}$ (2) x+y+z

(3) x^2yz (4) xy+z

Answer (1)

Sol. Let l, b, h are length, breadth, height of Cubiod given

lb=x, bh=y, lh=z then $(lbh)^2 = xyz \Rightarrow lbh = \sqrt{xyz}$

Hence volume = $\sqrt{xyz}$

159. If $\tan\theta + \cot\theta = 2$, then the value of $\tan^2\theta + \cot^2\theta$ is

(1) 4 (2) 2

(3) $\frac{3}{2}$ (4) 5

Answer (2)

Sol. : $\tan\theta + \cot\theta = 2$,

$\tan^2\theta + \cot^2\theta = (\tan\theta + \cot\theta)^2 - 2 = 2^2-2=2$

160. A bag contains 15 balls of which *x* are black and remaining are red. If the number of red balls are increased by 5, the probability of drawing the red balls doubles, then the probability of drawing red ball is

(1) $\frac{1}{5}$ (2) $\frac{4}{5}$

(3) $\frac{3}{5}$ (4) $\frac{2}{5}$

Answer (1)

Sol. : Let number of black balls =x then

Number of red balls = 15-x

Hence P(red ball) = $\frac{15-x}{15}$

given five more red balls added. Hence number of red balls =20-x

$\therefore$ P(red Ball) = $\frac{20-x}{20}$

by given condition $\frac{20-x}{20} = 2\left(\frac{15-x}{15}\right)$

by solving we get x=12

$\therefore$ Number of red balls =15-12=3 hence

P(red ball) = $\frac{3}{15} = \frac{1}{5}$

161. "For this earth is not allotted to anyone nor is it presented to anyone as a gift. It is awarded by providence to people who in their hearts have the courage to conquer it, the strength to preserve it and the industry to put it to the plough." Whose ideology is this?

(1) Benito Mussolini (2) Adolf Hitler

(3) Ho Chi Minh (4) Stali

Answer (2)

Sol. This is the famous speech given by hitlor

162. According to the census of 1921, 12 to 13 million people perished as result of .....

(1) First World War (2) Epidemics

(3) Famines (4) All the above

Answer (4)

Sol. 1911 the population was 252 million and in 1921 it was 251 million because of war, epidemics and famines.

163. Find out the wrong statement about Giuseppe Mazzini?

(1) He was a member of the secret society of the Carbonari

(2) He believed "The Gold had intended nations to be the natural units of mankind."

(3) He was the founder of young Europe.

(4) None of the above

Answer (2)

Sol. because mazzini was a member of carbonary

2. He created young Italy in 1832 and young Europe in 1834.

164. Who wrote the book "The history of the loss of Vietnam"?

(1) Phan Boi Chau (2) Ho Chi Minh

(3) Huynh Phu So (4) Phan Chu Trinh

Answer (1)

Sol. Phan - Bai Chau

165. Compulsory Elementary Education Act was made in England in the year ....

(1) 1829 (2) 1849

(3) 1860 (4) 1870

Answer (4)

166. Who developed the concept of "The principle of the Garden City"?

(1) Andrew Means (2) Henry Mayhew

(3) Ebenezer Howard (4) Haussman

Answer (3)

167. Who wrote "Ninety Five Theses" criticising many of the practices and rituals of the Roman Catholic Church?

(1) Martin Luther (2) Thomas Pain

(3) J.V.Schley (4) Richard M.Hoe

Answer (1)

Sol. Against the Roman Catholic

168. Kashi baba, a kanpur mill worker wrote and published "Chhote Aur Bade Ka Sawal" in 1938 to show the links between ....

(1) Caste and Class exploitation

(2) Caste and Religion relation

(3) Income and Untouchability

(4) Industrialists and Politicians

Answer (1)

Sol. Caste and Class Exploitaiation during that period

169. Only a decade ago, they were as illiterate, helpess and hungry as our own masses, who could be more astonished than an unfortunate Indian like myself to see how they had removed the mountains of ignorance and helplessness in these few years." Name the Indian, who quoted this Russian revolution?

(1) M N Roy (2) Rabindranath Tagore

(3) Mahatma Gandhi (4) Jawaharlal Nehru

Answer (2)

Sol. Comparision of Russia

170. Find out the wrong statement related to Franklin Roosevelt.

(1) Announced New Deal Policy to eradicate economic depression

(2) Introduced the much needed social security system

(3) President of America during Second World War

(4) None of the Above

Answer (2)

Sol. He introduce economic reforms not social security system

171. The Ryotwari settlement was introduced by the British in the .....

(1) Madras Presidency (2) Bengal Presidency

(3) Central Presidency (4) Assam Presidency

Answer (1)

Sol. Thomas munroe and captain reed introduced ryotwari settlement in Madras first in 1820.

172. The famous Quit India Resolution was pass on ....

(1) August 18, 1942 (2) April 4, 1942

(3) April 14, 1942 (4) August8, 1942

Answer (4)

Sol. The famous Quit India Resolution was passed in August 8, 1942 after failure of Cripps Mission.

173. Sikkim, West Bengal, Assam and Arunachal Pradesh have common frontiers with .....

(1) China (2) Bhutan

(3) Bangladesh (4) Mayanmar

Answer (2)

Sol. Bhutan

174. Which of these is not a Himachal Range?

(1) Dhaula Dhar (2) Pirpanjal Range

(3) Kailash Range (4) Mahabharat Range

Answer (3)

Sol. Himachal is not located in Kailash Range

175. The Himalayas is divided into four major Geological sections, Choose among the following which is not one of them

(1) Nepal Himalayas - Between Kali and Teesta

(2) Mahabharat Himalayas - Between Indus and Gilgit

(3) Kumaon Himalayas - Between Sutlej and Teesta

(4) Assam Himalayas - Between Teesta and Dihang

Answer (2)

Sol. Mahavarath Range in India

176. Match list A with B and select the correct answer using the codes given below the list.

List - A	List - B
(a) Hyderabad is warmer than Mumbai	(i) Altitude
(b) Snowfall in Himalayas	(ii) Mango showers
(c) North western plain gets rainfall in winter	(iii) Distance from sea
(d) Rainfall in summer	(iv) Western Depression

	a	b	c	d		a	b	c	d
(1)	iii	ii	iv	i	(2)	ii	i	iii	iv
(3)	iii	i	iv	ii	(4)	iv	ii	i	iii

Answer (3)

Sol. According to the Occurance.

177. Which one of the following bioreserves of India is not included in the world network of bio-reserve?

(1) Sunderbhan (2) Gulf of manner

(3) Nanda Devi (4) Silent Valley

Answer (4)

Sol. Silent valley is not under world network of bio-reserve it is local.

178. Highest Annual Growth Rate in India was recorded in these decades

(1) 1981, 1971, 1991 (2) 1991, 2001, 1971

(3) 1971, 2001, 1991 (4) 1961, 1971, 1981

Answer (1)

Sol. The hight of growth rate

179. Which of these is not related to conservation of Resources?

(1) The club of Rome advocated resources conservation for the first time in a more systematic way in 1968.

(2) Brundtland commission report, 1987 introduced the concept of "Sustainable Drvelopment".

(3) E.F Schumacher is the author of the book "Small is Beautiful".

(4) Earth summit was held in New York in 1997.

Answer (4)

Sol. It was the summit for the Reo-De-Genero-Extendel.

180. With reference to Indian agriculture, which of the following statements is not correct?

(1) India is the largest producer as well as the consumer of pulses in the world.

(2) India is the second largest producer of rice in the world after China.

(3) Tea is an important beverage crop introduced in India initially by the Persians.

(4) Groundnut is a khaarif crop and accounts for about half of the major oil seeds produced in the country.

Answer (3)

Sol. Tea is introduced by the British.

181. In which of these following industries, limestone is not used?

(1) Cement industry (2) Iron and Steel industry

(3) Oil Refinery industry (4) None of the above

Answer (3)

Sol. Lime stone is not used for oil refinery industry.

182. Find the wrongly matched

(1) Ferrous mineral - Iron ore

(2) Non-ferrous mineral - Mica.

(3) Non-Metallic mineral - Limestone

(4) Fuel minerals - Coal

Answer (2)

Sol. Mica is non metallic mineral

183. Identify the non-fibre crop?

(1) Hemp (2) Cotton

(3) Natural Silk (4) Rubber

Answer (2)

Sol. Cotton is non-fibre crop.

184. The South-East Trade Winds are attracted towards the Indian sub-continent in the month of June due to .....

(1) the effect of the westerlies

(2) the effect of Somaliya current

(3) the presence of low atmospheric pressure over North-West India

(4) None of the above

Answer (4)

Sol. South-West trade winds not south east.

185. Consider the following two statements on power sharing and select the answer using the codes given below

(a) Power sharing is good for democracy

(b) It helps to reduce the possibility of conflicts between social groups.

Which of these statements are true and false?

(1) Both a and b are true

(2) Both a and b are false

(3) a is true but b is false

(4) a is false but b is true

Answer (1)

Sol. Both a and b are true

186. Match the following countries and the path democracy has taken in that country.

Country	**Path to Democracy**
(a) Nepal	(i) End of One party Rule
(b) Chile	(ii) King agreed to give up his powers
(c) Ghana	(iii) End of Military Dictatorship
(d) Poland	(iv) Freedom from British Colonial Rule

	a	**b**	**c**	**d**		**a**	**b**	**c**	**d**
(1)	i	ii	iv	iii	(2)	ii	iii	iv	i
(3)	iii	ii	i	iv	(4)	iv	i	iii	ii

Answer (2)

Sol. Recent development and Democracy

187. Consider the following statements about pressure groups and parties

(a) Pressure groups are the organised expression of the interests and views of specific social sections.

(b) Pressure groups take positions on political issues

(c) All pressure groups are political parties.

Which of the statements given above are correct

(1) a, b, and c (2) a and b

(3) b and c (4) a and c

Answer (2)

Sol. Only one and two are correct because all pressure group are not political parties.

188. Match the ministry with the news that the ministry may have released.

	A	B
(a)	A new policy is being made to increase the jute exports from the country	(i) Ministry of Defence
(b)	Telephone services will be made more accessible to rural areas	(ii) Ministry of Health
(c)	The price of rice and wheat sold under the Public Distribution system will go down.	(iii) Ministry of Agriculture, Food and Public Distribution
(d)	A pulse polio Campaign will be launched	(iv) Ministry of Commerce and Industry
(e)	The allowances of the soldiers posted on high altitudes will be increased	(v) Ministry of communications and Information Technology.

	a	b	c	d	e
(1)	i	iii	ii	iv	v
(2)	iv	v	iii	ii	i
(3)	iii	v	ii	i	iv
(4)	ii	v	iii	iv	i

Answer (2)

Sol. According to the distribution of work by the Ministry

189. Find out the right which is not under the Indian Constitution?

(1) Freedom of Speech and Expression

(2) Move freely through the Country

(3) Practise any profession

(4) None of the above

Answer (4)

Sol. Remain all three are rights of Indians

190. Find out the wrong statement about National Human Rights Commission.

(1) This is an independent commission established by law in 1993.

(2) Present Chairman for National Human Rights Commission is Justice Jeevan Reddy

(3) Like National Human Rights COmmission, there are State Human Rights Commissions in 14 states on the country

(4) There is no fee or any formal procedure to approach the National Human Rights Commission.

Answer (2)

Sol. Present Chairman is H.L.Dattu for 29 Feb, 2016.

191. Find out the subject which is under concurrent list?

(1) Police

(2) Communication

(3) Marriages and Divorce

(4) None of the above

Answer (2)

Sol. Communication comes under concurrent list.

192. A struggle known as "Bolivia's water war" took place in ..... city.

(1) Cochabamba

(2) Lapaz

(3) Trinidad

(4) Montero

Answer (1)

Sol. The revolution started in Cochabamba

193. Consider the following statements

(i) Equitable allocation of resouces

(ii) Generation of employment

(iii) Tax concession to big corporates

(iv) Universalisation of public distribution.

Which of the factors given above can bring inclusive growth in out country?

(1) (i), (ii), (iii)

(2) (i), (ii), (iv)

(3) (i), (iii), (iv)

(4) (ii), (iii), (iv)

Answer (2)

Sol. This three are only correct

194. Which of the following is wrong related to Antyodaya Anna Yojana?

(1) Antyodaya Anna Yojana was launched in December 2000.

(2) 2 crore families have been covered under the Antyodaya Anna Yojana.

(3) Wheat is supplied at the rate of Rs.6 and rice at the rate of Rs.7 under this scheme

(4) None of the above

Answer (3)

Sol. Price is less

195. Find out the correct one related to under employment.

(1) They do not want to work

(2) They work in a lazy manner

(3) They work less than what they are capable of ding

(4) They are not paid for their work

Answer (3)

Sol. They work less than full capacity and the marginal productivity is Zero.

196. Find out the wrong one about Secondary sector

(1) Secondary sector is also called as industrial sector

(2) Manufacturing of bricks and sugar come under secondary sector

(3) The share of secondary sector is more in current GDP of India

(4) None of the above

Answer (3)

Sol. Now we are getting more GDP from Service Sector.

197. Which among the following is money function?

(1) Medium of exchange (2) Unit of account

(3) Store of value (4) All the above

Answer (4)

Sol. All are the function of the Money.

198. Consider the following statements about Globalisation.

(a) The most common route for investment by MNC's in countries aroung the world is to buy existing local companies.

(b) Investment made by multinational companies is called foreign investment.

(c) Cargill Foods, an American company purchased an Indian company called Parakh Foods.

(d) Ford Motors is one of the biggest German Automobile manufacturer.

Which of the given statements are True?

(1) a, c, d

(2) a, b, c

(3) b, c, d

(4) a, b, c, d

Answer (2)

Sol. Ford motors belongs to USA and Collaborate with Mahendra and Mahendra.

199. In which year, did the Bengal Famine occur, which was responsible for the death of 30 lakh people in Bengal Province?

(1) 1933 (2) 1943

(3) 1953 (4) 1963

Answer (2)

Sol. The Famine held in 1943 in West Bengal.

200. Find out the wrong one related to Annapurna Scheme (APS)

(1) Introduced in the year 2000.

(2) A schemen meant for indigent senior citizens.

(3) 10 kg of food grains are supplied freely under the scheme.

(4) None of the above

Answer (4)

Sol. All three statements are correct.

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