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1. The whole passage is a description of Cissy's

(1) courage for stealing (2) plans before stealing

(3) temptation before stealing (4) greed for stealing

Ans. (2) temptation before stealing

Sol. This is the central theme of the passage

2. Cissy was guilty because she

(1) knew what she was doing was morally wrong (2) felt her heart pounding inside her chest

(3) was saying her prayers (4) knew that she was about to do something selfish

Ans. (1) knew what she was doing was morally wrong

Sol. Inferred from the line "I know it is a sin but the lord will not punish us if we are so hungry."

3. Her heart beat strongly as she

(1) thought nobody was watching her (2) was thinking to steal the biscuits

(3) was eager to taste the biscuits (4) was very hungry

Ans. (2) was thinking to steal the biscuits

Sol. A logical deduction of reaction in such a situation.

4. Cissy could see the cartons of biscuits for she

(1) she wanted to eat all the biscuits (2) she felt like vomiting

(3) her mouth started watering (4) she thought about all her sins

Ans. (4) was aided by a light

Sol. Inferred from the phrase "lighted windows".

5. When Cissy saw the cartons of biscuits

(1) she wanted to eat all the biscuits (2) she felt like vomiting

(3) her mouth started watering (4) she thought about all her sins

Ans. (3) her mouth started watering

Sol. "Against her conscious wishes Cissy's saliva glands started pumping the fluid into her mouth"

Questions (6-10)

Read the following passage and answer the questions given below:

In one of the summer breaks we started pitching the highest camp that has ever been made. Everything took five times as long as it would havse taken in a place where there was enough air to breathe; but at last we got the tent up and when we crawled in, it was not too bad. There was only a light wind, and inside it was too cold for us to take

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off our gloves. At night most climbers take off their boots; but I prefer to keep them on. Hillary, on the other hand, took his off and laid them next to his sleeping bag.

6. The narrator of the story is

(1) an airline pilot (2) a mountaineer (3) a traveller (4) a tourist

Ans. (2) a mountaineer

Sol. Inferred from the phrase "most climbers"

7. They crawled into the tent because

(1) they were excited (2) the entrance to the tent must have been low

(3) they had heavy loads on their back (4) they wanted to hide

Ans. (2) the entrance to the tent must have been low

Sol. Significant from the word crawled.

8. In this passage, 'we' refers to

(1) the author and his classmate (2) the author and his friends

(3) the author and his wife (4) the author alone

Ans. (2) the author and his friends

Sol. The mention of a person named 'Hillary' and pronoun 'his'

9. They took a long time to finish the work because

(1) they were very tired (2) it was very cold

(3) there was not enough air to breathe (4) it was very dark

Ans. (3) there was not enough air to breathe

Sol. Inferred from the line "Everything took five times as long as it would have taken in a place where there was enough air to breathe"

10. According to the passage, the correct sentence is

(1) Hillary took off his gloves (2) Hillary took off his boots

(3) Author took off his boots (4) Author took off his gloves

Ans. (2) Hillary took off his boots

Sol. Inferred from the line "Hillary, on the other hand, took his off"

Questions (11-15)

Read the following poem and answer the questions given below:

The Spider and the Fly

"Will you walk into my parlour?" said the Spider to the Fly,
'Tis the prettiest little parlour that ever you did spy;
The way into my parlour is up a winding stair,
And I've a many curious things to show when you are there."
"Oh no, no," said the little Fly, "to ask me is in vain,
For who goes up your winding stair, can ne'er come down again."
"I'm sure you must be weary, dear, with soaring up so high;
Will you rest upon my little bed?" said the Spider to the Fly.
"There are pretty curtains drawn around; the sheets are fine and thin,
And if you like to rest awhile, I'll snugly tuck you in!"
"Oh no, no," said the little Fly, "for I've often heard it said,
They never, never wake again, who sleep upon your bed!"

Mary Howitt

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11. 'The Parlour' in the poem refers to the spider's

(1) web (2) house (3) nest (4) corner

Ans. (1) web

Sol. 'parlour' means reception room where visitors can be received. The spider has a web.

12. The spider's description of her 'parlour' can be termed

(1) tempting (2) inviting (3) persuading (4) provoking

Ans. (1) tempting

Sol. The description of the parlour aims at tempting the fly to the web.

13. The fly was

(1) foolish (2) crazy (3) in love (4) wise

Ans. (4) wise

Sol. She was wise to see through the spider's evil intentions.

14. 'If the fly like to rest awhile'- the spider would

(1) put the fly to sleep (2) draw the curtains

(3) tightly push it in (4) show him curious things

Ans. (1) put the fly to sleep

Sol. Inferred from the line "I'll snugly tuck you in"

15. By 'They never, never wake again, who sleep upon your bed!' the fly meant

(1) they fall into deep sleep (2) they get full rest

(3) they dream (4) they die

Ans. (4) they die

Sol. Inferred from the last line "They never, never wake again"

Questions (16-17):

16. The following six sentences form a paragraph. The first and the last sentences are given. Choose the order in which the four sentences (P,Q,R,S) should appear to complete the paragraph.

S1 Gerard ran forward

S2 _____

S3 _____

S4 _____

S5 _____

S6 Excited with his quick victory, Gerard hit it again and again with all his force.

P: As he ran, a young bear's path was closed

Q: The poor creature fell down dead

R: Gerard raised his axe and struck a powerful blow on the bear's nose.

S: Fining its path barred, it immediately went back upon its hind legs with a snarl and opened jaws and claws for an attack.

(1) SQRP (2) PSRQ (3) RPSQ (4) PQSR

Ans. (2) PSRQ

Sol. The most logical sequence of sentences

17. S1: There was once a Persian king called Shahryar who had a beautiful wife.

S2 _____

S3 _____

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S4 _____

S5 _____

S6 After one day's marriage he would cut off her head and marry again.

P: When the King discovered this he killed her

Q: He gave orders that he was to be provided with a new wife everyday.

R: He loved her very much, but she was a wicked woman.

S: He decided that all women were wicked and that he would punish them.

(1) PQRS (2) QSPR (3) RPSQ (4) SPRQ

Ans. (3) RPSQ

Sol. The most logical sequence of sentences

Questions (18- 19)

The following questions have the second sentence missing. Choose the appropriate sentence from the given options to complete it.

18. A) A poor peasant went off early one morning to plough, taking with him, for his breakfast a piece of bread.

B) _____-

C) Then he hid it under a bush and started to work.

(1) He lifted the coat, but the bread was gone!

(2) He went to get his coat and his breakfast

(3) He got his plough ready and put his coat round the bread.

(4) After a while, when his horse was tired and he was hungry, the peasant stopped ploughing.

Ans. (3) He got his plough ready and put his coat round the bed

Sol. The most complementing sentence out of the given choices.

19. A) In old times, man had no knowledge of certain happening such as earthquakes, floods, storms and cyclones.

B) _____

C) He regarded them as the doings of certain hidden mysteries and divine forces.

(1) Superstitions are blind and baseless beliefs

(2) They are born out of ignorance and fear of forces of nature

(3) Many people always believed in superstitions

(4) Such happenings came to have a mysterious significance for him.

Ans. (4) Such happening came to have a mysterious significance for him

Sol. The most complementing sentence out of the given choices.

Questions (20-27)

Choose the word which best fills the blank from the four options given.

20. Hindus are a _____ majority in India.

(1) linguistic (2) religious (3) ethnic (4) wealthy

Ans. (2) religious

Sol. 'religious' means concerned with sacred matters as defined by the term 'Hindus'

21. The degrees were awarded in the annual _____

(1) convention (2) convolution (3) convocation (4) conference

Ans. (3) convocation

Sol. 'convocation' means a meeting of the members of a college or university to observe a particular ceremony.

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22. She was so badly injured that she needed _____care in the hospital.

(1) extensive (2) little (3) intensive (4) deep

Ans. (3) intensive

Sol. 'intensive' means involving very great effort

23. I was filled with ____while hearing my old favourite songs.

(1) empathy (2) nostalgia (3) creativity (4) commotion

Ans. (2) nostalgia

Sol. 'nostalgia' means pleasure and sadness that is caused by remembering something from the past and wishing that you could experience it again.

24. The traveller had many _____memories of his jungle adventures.

(1) candid (2) sumptuous (3) prosperous (4) vivid

Ans. (4) vivid

Sol. 'vivid' means seeming like real life because it is very clear, bright, or detailed.

25. He is so _____to light that he never leaves the house without sun glasses .

(1) sensitive (2) blind (3) afraid (4) immune

Ans. (1) sensitive

Sol. 'sensitive' means capable of being stimulated or excited by external agents

26. A light breeze _____the forest fire and made it more dangerous .

(1) light (2) illuminated (3) extinguished (4) fanned

Ans. (4) fanned

Sol. 'fanned' means make fiercer

27. Her spectacles simply would not rest on the _____ of her nose .

(1) arch (2) bridge (3) pimple (4) hook

Ans. (2) bridge

Sol. 'bridge of the nose' means the hard ridge that forms the upper part of the nose.

Questions (28-37) :

In the following passage there are some numbered blanks . Fill in the blanks by selecting the most appropriate word for each blank from the given options :

Research conducted by (28) _____ on addictions associated (29) _____ food says that it is very easy to (30) _____ bad habits (3(1) _____ as eating too many sweets or too (3(2) _____ food or drinking too much (3(3) _____ of a kind. The more we do something, (3(4) _____ we tend to like it, (35) _____ amidst the social gathering , such people cannot , (36) _____ from having the (37) _____ of their favourite food .

28. (1) solicitors (2) scientists (3) florists (4) chemists

Ans. (2) scientists

29. (1) on (2) for (3) with (4) for

Ans. (3) with

30. (1) associate (2) acquire (3) gain (4) get

Ans. (2) acquire

31. (1) such (2) like (3) instance (4) so

Ans. (1) such

32. (1) many (2) few (3) little (4) much

Ans. (4) much

33. (1) chow (2) fluids (3) drink (4) nutrition

Ans. (2) fluids

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34. (1) higher (2) more (3) furthermore (4) the more

Ans. (4) the more

35. (1) instead (2) despite (3) even (4) in spite of

Ans. (3) even

36. (1) persist (2) resist (3) fight (4) refrain

Ans. (4) refrain

37. (1) full throttle (2) lion's share (3) donkey's share (4) black sheep

Ans. (2) lion's share (the largest share)

Questions (38-40):

Choose the appropriate phrasal verbs to complete the sentences.

38. The Prime Minister _____the President yesterday .

(1) called for (2) called at (3) called on (4) called with

Ans. (3) called on

Sol. 'called on' as a Phrasal Verb means 'to visit'

39. I _____ my old roommate at the theatre.

(1) ran at (2) ran off (3) ran out (4) ran into

Ans. (4) ran into

Sol. 'ran into' as a Phrasal Verb means 'meet accidentally'

40. I want you to _____ this particular problem.

(1) look into (2) look out (3) look on (4) look after

Ans. (1) look into

Sol. 'look into' means to examine as to determine accuracy, quality or condition.

Questions (41- 4(3):

Select the meaning of the given phrases /idioms.

41. Spill the beans

(1) remove the beans (2) keep a secret (3) to reveal a secret (4) to preserve the beans

Ans. (3) to reveal a secret

Sol. Meaning of the given Idiom

42. A good Samaritan

(1) a religious person (2) a good mannered person

(3) one who helps others (4) one who is very polite and courteous

Ans. (3) one who helps others

Sol. Meaning of the given Idiom

43. To hit the nail on the head

(1) to say just the right thing (2) to hit the nail strongly

(3) to speak hard words (4) to antagonise

Ans. (1) to say just the right thing

Sol. Meaning of the given Idiom

Questions (44 -48)

Select the most appropriate option to fill in the blanks from the given alternatives :

44. It is difficult to ____ the weather.

(1) predicts (2) prediction (3) predicted (4) predict

Ans. (4) predict

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Sol. the 'to infinitive' form uses the root form of the verb.

45. Don't worry. She'll finish the job. She is very _____

(1) complain (2) diligent (3) barren (4) wisdom

Ans. (2) diligent

Sol. 'diligent' means steadily continuing a task despite any difficulty

46. A _____ reverence for the past is bad.

(1) abnormal (2) rigid (3) blind (4) orthodox

Ans. (3) blind

Sol. The most appropriate collocation in this case is 'blind reverence'

47. The beach was covered with _____ after the vast crowd of holiday makers had left.

(1) placid (2) quarry (3) barrels (4) litter

Ans. (4) litter

Sol. 'litter' means rubbish carelessly dropped or left about specially in public places.

48. I cannot _____ such a loud noise anymore.

(1) prefer (2) support (3) endure (4) try

Ans. (3) endure

Sol. 'endure' means to face and withstand or continue to live with

Question (49-50)

Select the word which means the opposite of the underlined word.

49. The army receded after it was defeated in the war.

(1) rushed (2) approached (3) advanced (4) forwarded

Ans. (3) advanced

Sol. Antonym of 'receded'

50. The life was very expensive as there was dearth for food.

(1) extravagance (2) scarcity (3) shortage (4) abundance

Ans. (4) abundance

Sol. Antonym of 'dearth'

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1. 80:400:: 100:?

(1) 800 (2) 625 (3) 600 (4) 525

Ans. ***(2)***

Sol. $20 \times 4 : 20^2 : : 25 \times 4 : 25^2$

2. 2. 2 3 5 9 : 3 5 9 17 :: 5 9 17 33 : ?

(1) 7 15 31 63 (2) 7 13 25 57 (3) 9 17 33 47 (4) 9 15 31 63

Ans. ***(1)***

Sol. Difference of terms is double

3. E Q O X H A : zscljv :: YFKTDI : ?

(1) b u p g w r (2) s w g p u l (3) b e p g w h (4) r w g p u b

Ans. ***(4)***

Sol. Reverse all letters and write their reverse position value.

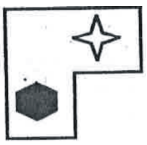
4. 

(1)  (2)  (3)  (4) 

Ans. ***(3)***

Sol. Blank dot are moving four steps in clockwise direction and black dot are moving four steps in anticlockwise direction.

5. 

(1)  (2)  (3)  (4) 

Ans. ***(1)***

Sol. Rotate 180° in clockwise direction and interchange the white and black colour.

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Directions Q.6 to Q.8 : In the given questions there are four groups of numbers / pairs of numbers / group of letters of which three are alike and one is different. Find the one which is different.

6. (1) 354 (2) 282 (3) 234 (4) 186

Ans. ***(2)***

Sol. Digit multiplication is divde by 3

7. (1) 273, 189 (2) 255, 195 (3) 247, 171 (4) 221, 153

Ans. ***(2)***

Sol. Divide the number by HCF of the groups remainder is same 13 and 9 except option (2)

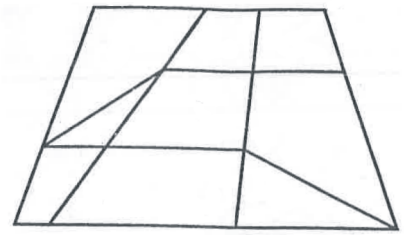
8. (1) Z W R K (2) MJEX (3) T Q L E (4) I F A V

Ans. ***(4)***

Sol. Differecne in all terms – 3,–5,–7 except option (4)

Directions Q.9 to Q.11 : Identify the number of specified geometric shapes in the given diagram and mark the correct answer.

9. How many Trapeziums are in the given figure ?

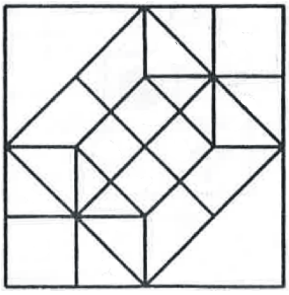


(1) 21 (2) 22 (3) 24 (4) 25

Ans. ***(2)***

Sol. There are 22 trapeziums

10. How many Squares are in the given figure?



(1) 13 (2) 15 (3) 17 (4) 19

Ans. ***(3)***

Sol. There are 17 square

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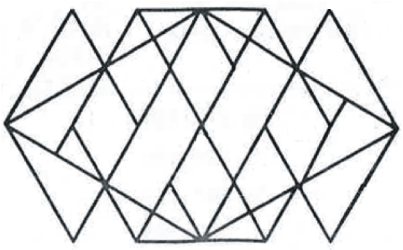
11. How many Rhombus are in the given figure?



(1) 8 (2) 9 (3) 10 (4) 11

Ans. ***(4)***

Sol. There are 11 Rhombus

Directions (Q.12 to Q15) : Complete the following number/figural series by choosing the correct answer from the given alternatives.

12. 113,114,118, ?,143,168

(1) 127 (2) 129 (3) 134 (4) 139

Ans. ***(1)***

Sol. Difference between the terms is square number.

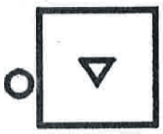
13. 37,34, 29,26,21,?,?

(1) 17, 12 (2) 16, 13 (3) 18, 13 (4) 19, 14

Ans. ***(3)***

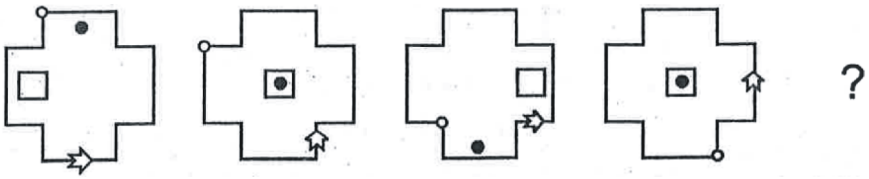
Sol. Difference between the terms is –3 and –5

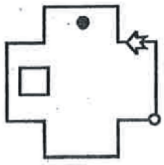
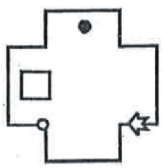
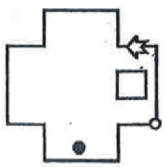
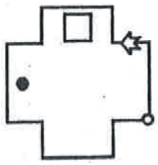
14. 

(1)  (2)  (3)  (4) 

Ans. ***(2)***

Sol. In every move inner figure is become bigger and outer figure become smaller.

15. 

(1)  (2)  (3)  (4) 

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Ans. ***(2)***

Sol. Square is moving alternatively 2 steps. dot is moving alternatively 2 steps and arrow is moving one step in every move.

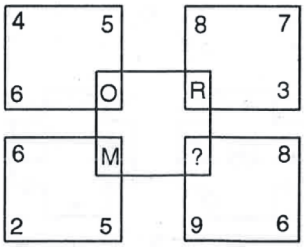
16. If BANGALORE is Coded as 25N13T 26Y12E22;TlienSHIMOGA can be written as

(1) 19U9N 15T1 (2) 8 S 18 A 12 G 26 (3) 19 S 9 A 15 T 1 (4) 8U18Z12T26

Ans. ***(4)***

Sol. Odd position letters are coded by reverse position and even position letters are coded by + 13 to it selfs.

17. Find the missing letter in the given figure.



(1) U (2) W (3) T (4) V

Ans. ***(2)***

Sol. (5 + 4 +6) = 15 = O ; (8 + 7 +3) = 18 = R

in the same way 8 + 6 +9 = 23=W

18. Directions : To get the correct equation choose, which set of signs from the given alternatives to be substituted sequentially in places of (*)

72 * 36 * 18 * 3 * 12 * 36

(1) –, ÷, ×, =,+ (2) ÷, ×, +, –, = (3) =,+,÷, ×, – (4) –, ×, ÷, =,+

Ans. ***(3)***

Sol. 72 = 36 + 18 ÷ 3 × 12 – 36

19. Directions: When interchange of x and =, 7 and 9 are made, find which of the following equations would be correct.

(1) 10 + 9 × 6 = 7 (2) 4 = 7 – 9 × 20 (3) 36 ÷ 4 × 7 = 9 (4) 9 = 3 + 7 × 30

Ans. ***(4)***

Sol. 7 × 3 + 9 = 30

Directions (Q.21 & Q.22) : Find the wrong number/group of letters in the given series'.

20. 9, 19, 40, 83, 172, 345

(1) 172 (2) 83 (3) 40 (4) 19

Ans. ***(1)***

Sol. Pettern is × 2 + 1, × 2 + 2 × 2+ 3, ...

21. ZDUIP, LJQEV, TAPEL, FSJON, QJNGK

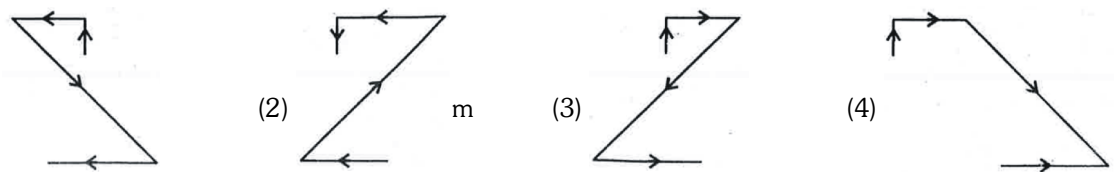
(1) L J Q E V (2) T A P E L (3) F S J O N (4) Q J N G K

Ans. ***(4)***

Sol. In each terms the odd position letters is the same difference as the even position letters.

22. A person starts from his house, drives his vehicle 1 km towards North and reaches a restaurant. From there he moves 2 km towards East to meet his friend. Then he moves 4 km in the South-west direction to reach the market. From there he moves 3 km towards East and parks his vehicle. Which of the following figures shows the route covered by him ?

(1) (2) m (3) (4)



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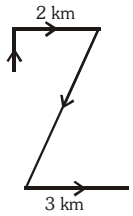
Ans. ***(3)***

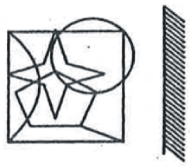
Sol.



By observation

Directions (Q.23 & Q.24) : Find the correct mirror images for the following problem figures choosing from the alternatives.

23.

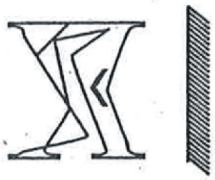


(1) 
(2) 
(3) 
(4) 

Ans. ***(2)***

Sol.

24.



(1) 
(2) 
(3) 
(4) 

Ans. ***(1)***

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Sol. 

Directions (Q.25 & Q.26): Find the missing number in the given matrices.

25. 40 7 70
24 9 ?
36 5 45
(1) 40 (2) 36 (3) 54 (4) 64

Ans. ***(3)***

Sol. In first row $40 \times 7 \div 4 = 70$ in th same way. $24 \times 9 \div 4 = 54$

26. 33 44 76
23 54 66
43 ? 86
13 34 56
(1) 94 (2) 84 (3) 74 (4) 64

Ans. ***(4)***

Sol. In column addition first and second number = addition of third and fourth number.

Directions (Q.27 to Q.29): The words are given under Column - I. Their codes are given under Column - II without following the same order as in Column-I. Find the codes for the letters of words in Column - I and find the codes for the given words/numbers in the questions.

Column - II					Column -II		
C	A	R			2	9	6
M	E	N			4	0	1
A	C	T			3	2	9
T	E	A	M	4	1	3	2
R	U	S	T	7	6	3	8
S	E	N	D	5	0	4	8

27. ASCENT
(1) 289403 (2) 6 3 2 0 1 9 (3) 2 7 9 1 5 2 (4) 45 68 4 7

Ans. ***(1)***

Sol. Take common from column I and column II and used by option.

28. CUSTARD
(1) 6352470 (2) 9783265 (3) 3609325 (4) 9846234

Ans. ***(2)***

Sol. Take common from column I and column II and used by option.

29. 8 2 0 9 3 7 1
(1) NASCENT (2) TANDEMS (3) DESCANT (4) SANCTUM

Ans. ***(4)***

Sol. Take common from column I and column II and used by option.

30. A, B, C, D, E and F are six students. Among them,
1. E is taller than F
2. A is taller than B
3. A is shorter than C

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4. D is shorter than F
5. B and E are of equal heights

Then, which one of the following represents the tallest and the shortest pair of students ?

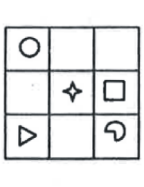
(1) A and B (2) B and C (3) C and D (4) E and F

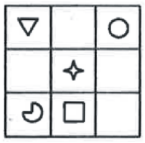
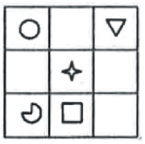
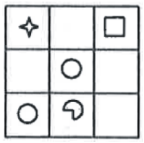
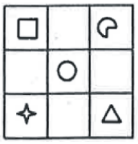
Ans. ***(3)***

Sol. C > A > B = E > F > D

Directions (Q.31 & 32): Find the figure which is similar to the problem figure, choosing from the given alternatives.

31.

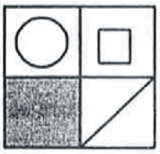
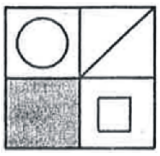
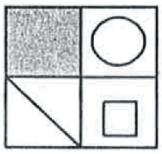


(1)  (2)  (3)  (4) 

Ans. ***(1)***

Sol. By rotation in clockwise by 90°.

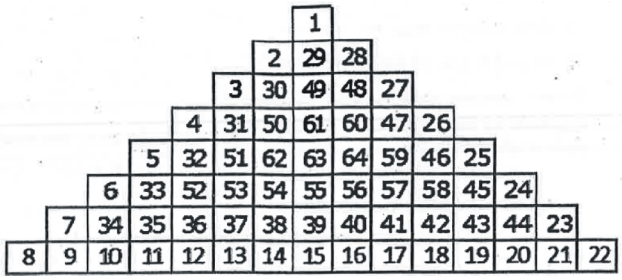
32.

(1)  (2)  (3)  (4) 

Ans. ***(2)***

Sol. Rotated in clockwise direction two times.

Directions (Q.33 to Q.35) : The following questions are based on the numbers arranged in the pyramid pattern. Study the pattern and complete the given analogy.



						1							
					2	29	28						
				3	30	49	48	27					
			4	31	50	61	60	47	26				
		5	32	51	62	63	64	59	46	25			
	6	33	52	53	54	55	56	57	58	45	24		
7	34	35	36	37	38	39	40	41	42	43	44	23	
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

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33. 4 53 14 : 26 57 16 :: ? : 27 64 39

(1) 3 32 37 (2) 3 62 37 (3) 3 62 39 (4) 3 51 39

Ans. ***(3)***

Sol. By observation in pyramid.

34. 12 35 6 : 18 43 24 :: ? : 16 41 58

(1) 14 37 52 (2) 13 36 33 (3) 14 39 56 (4) 14 36 52

Ans. ***(3)***

Sol. By observation in pyramid.

35. 4 3 50 : 26 27 60 :: 33 32 53 : ?

(1) 58 59 56 (2) 45 42 57 (3) 57 46 45 (4) 45 46 57

Ans. ***(4)***

Sol. By observation in pyramid.

36. Directions: Lata is now 6 years younger to her brother Suraj. After 18 years she will be 4 times her present age. Then what will be the age of Lata after l8 years ?

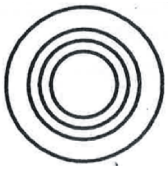
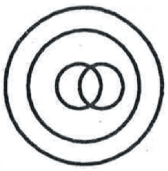
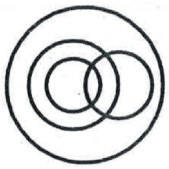
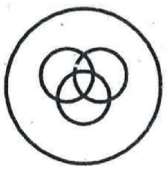
(1) 18 Years (2) 24 Years (3) 32 Years (4) 36 Years

Ans. ***(2)***

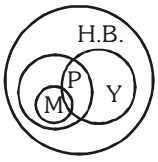
Sol. Lata is present age = 6 after 18 years her age is = 24 so here she will be 4 times her present age.

37. Directions: The following Venn diagrams show the relationship among the Four given objects. Indicate the appropriate diagram to show the relationship.

Politicians, Ministers, Youth, Humanbeings

(1)  (2)  (3)  (4) 

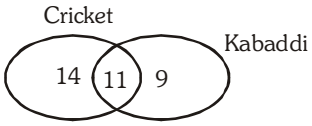
Ans. ***(3)***

Sol. 

38. There are 48 students in a class. Among them 25 students play cricket, while20 students play kabaddi. Some of them play both cricket and kabaddi. 14 students do not play any of these games. How many students play both cricket and kabaddi ?

(1) 11 (2) 13 (3) 15 (4) 16

Ans. ***(1)***

Sol. 

Directions (Q.39 & Q.40) : Find the missing part ot the given figure from the alternatives.

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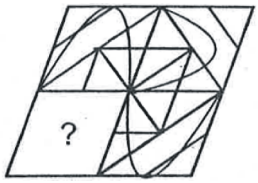
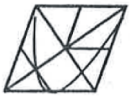
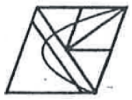
39. 

(1)  (2)  (3)  (4) 

Ans. (2)

Sol. 

40. 

(1)  (2)  (3)  (4) 

Ans. (4)

Sol. 

41. Directions: Take the given statements as true and decide which of the conclusions logically follow from the statements.

Statements:

1. Some cars are bicycles.
2. All bicycles are buses.
3. Some buses are lorries.

Conclusions:

I. Some buses are cars.

II. Some cars are lorries.

(1) Only conclusion I follows
(2) Only conclusion II follows
(3) Both conclusions I and II follows
(4) Neither conclusion I nor II follows

Ans. (1)

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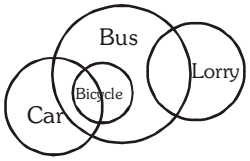
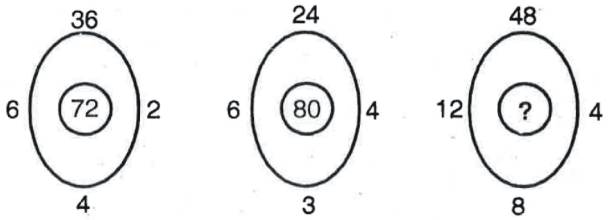
Sol.



Directions (Q.42 & Q.43) : In the questions below the numbers in the figures are related. Identify their relationship and find the missing numbers in the given figures.

42.



(1) 108 (2) 96 (3) 84 (4) 60

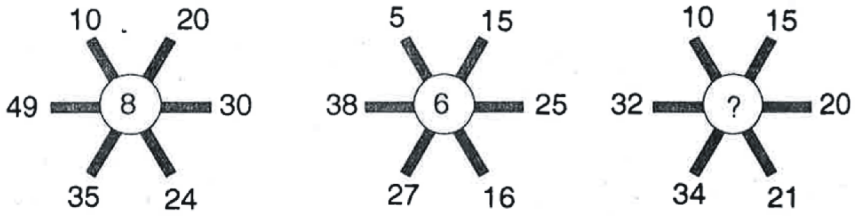
Ans. ***(2)***

Sol. $\frac{36}{4} \times (6+2) = 72$

in the same way

$\frac{48}{8} \times (12+4) = 96$

43.



(1) 4 (2) 5 (3) 7 (4) 9

Ans. ***(3)***

Sol. Sum of the difference between the face to face number divide 6.

$\therefore \quad \frac{(49-30)+(35-20)+(24-10)}{6}$

44. Directions : Question below is based on three statements I, II and III . Decide, whether the data in the statements is sufficient to find the answer to the given question.

The comparison of marks scored by A, B, C and D in an examination is as follows.

Statements:

I. A has scored 20 marks less than B.

II. A has scored 30 marks more than C.

Ill. D has scored 10 marks less than C.

Question:

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To find who has scored the highest marks among A, B, C and D

(1) Data in statement I is sufficient

(2) Data in statement II is sufficient

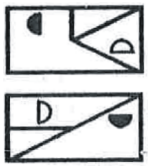
(3) Data in statements II and III are sufficient

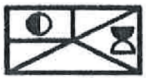
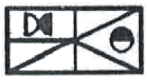
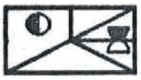
(4) Data in all the statements, I, II and III are sufficient

Ans. ***(4)***

Sol. Data in all the statements I, II and III are sufficient.

45. Directions : In the following questions a set of two figures is given as problem figure. Find which one of the following alternative figures would be formed, if the first figure is superimposed on the second figure.

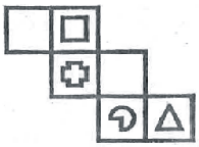


(1)  (2)  (3)  (4) 

Ans. ***(2)***

Sol. By observation

Directions : When the problem figure is folded into a cube, which one of the following cubes will be formed ?

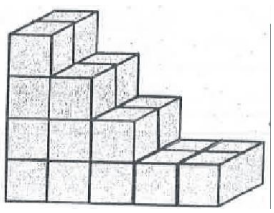
46. 

(1)  (2)  (3)  (4) 

Ans. ***(1)***

Sol. □ and  is opposite so option 2 and 3. cancelled . Blank faces are also opposite. So option 4 is also cancelled. So options (1)

47. Few bricks are arranged as shown in the following figure. How many bricks are unseen (that is hidden backside) in the figure.



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(1) 9 (2) 8 (3) 7 (4) 6

Ans. ***(4)***

Sol. By counting the blocks.

48. Q is father of P and S is R's brother. R is the only daughter of her mother M. If S is P's maternal uncle, how are Q and R related ?

(1) father and daughter (2) brother and sister

(3) husband and wife (4) brother-in-law and sister-in-law

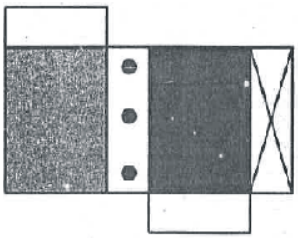
Ans. ***(3)***

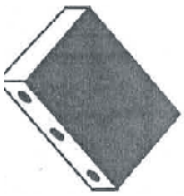
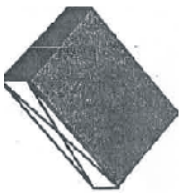
Sol. $S - \overset{M^-}{\underset{|}{R^-}}$ $\overset{Q}{\underset{|}{P}}$ + male : – female $\Rightarrow$ couple

(Question: 49)

Directions: If the following question figure is folded in three dimensional shape, find which one of the shapes among the alternatives appear.

49.



(1)  (2)  (3)  (4) 

Ans. ***(1)***

Sol. Colour faces are opposites option 3 and 4 is cancelled . Blank faces are also opposite so option 2 cancelled so option (1)

50. The weight of a bottle completely filled with water is 800 gms. When half of the water is emptied from the bottle, it weighs 500 gms. Then what is the weight of the empty bottle?

(1) 200 gm (2) 300 gm (3) 600 gm (4) 150gm

Ans. ***(1)***

Sol. ***200*** + 300 + 300 = 800

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1. A stone is dropped from the tip of a tower with zero initial velocity. It reaches the ground in 4 second. Then the height of the tower is ($g = 9.8\ ms^{-2}$)

(1) 176.4m (2) 78.4 m (3) 39.2 m (4) 384.1 m

Ans. ***(2)***

Sol. $h = ut + \frac{1}{2}gt^2$

$h = 0 + 9.8 \times 8 = 78.4$ m

2. The weight of the body is 19.6 N, the mass of the same body is ($g = 9.8\ ms^{-2}$)

(1) 19.6 kg (2) 9.8 kg (3) 4 kg (4) 2 kg

Ans. ***(4)***

Sol. $w = mg$

$m = \frac{19.6}{9.8} = 2$ kg

3. A monkey is sitting in the pan of a spring balance kept in an elevator. The reading of the spring balance is maximum when the elevator

(1) is in stationary (2) accelerate upwards (3) falls freely (4) accelerate downwards

Ans. ***(2)***

Sol. When the lift is moving with uniform acceleration upwards, net force on it is $F_{net} = R' - mg$ [R' = apparent weight]

$R' = ma + mg = m(a + g)$

4. Which one of the following body is having highest potential energy at a fixed point ?

(1) a body of mass 2 kg is placed at a height of 6m (2) a body of mass 3 kg is placed at a height of 5m

(3) a body of mass 4 kg is placed at a height of 4 m (4) a body of mass 5 kg is placed at a height of 3m

Ans. ***(3)***

Sol. In option (3) W = 16g J which is maximum

5. The property of Anomalous Expansion water happens between the temperature

(1) 0°C – 4°C (2) 0°F – 4°F (3) 0K – 4K (4) 0°C – (–4°C)

Ans. ***(1)***

Sol. As the temperature increase from 0°C to 4°C, water contracts and thus its density increases. This is anomalous expansion of water.

6. An object is placed at a distance of 20 cm infront of a concave mirror of focal length 20 cm. The image formed is

(1) Virtual and inverted (2) Real, inverted and diminished

(3) Real and erect (4) Real, inverted and same size as the object

Ans. ***N/A***

Sol. The object is placed at the focus of the concave mirror. The image formed is real, inverted and highly enlarged.

7. Which of the following factor does not affect the velocity of sound ?

(1) Elasticity of the medium (2) Density of the medium

(3) Pressure of the medium (4) Humidity of the medium

Ans. ***(3)***

Sol. Pressure of the medium does not affect the velocity of sound in the medium.

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8. The direction of magnetic field lines produced in a current carrying conductor can be determined by
(1) Right hand thumb (grip) rule (2) Fleming's left hand rule
(3) Fleming's right hand rule (4) Faraday's laws

Ans. ***(1)***

Sol. Right hand thumb rule gives the direction of the magnetic field lines produced in the current carrying conductor.

9. Two bodies of masses 1 kg and 2kg are separated by a distance of 1m on the surface of the earth, then the gravitational force between these two bodies is
(1) $1 \times 6.673 \times 10^{-11}$ N (2) $2 \times 6.673 \times 10^{-11}$ N (3) $3 \times 6.673 \times 10^{-11}$ N (4) $4 \times 6.673 \times 10^{-11}$ N

Ans. ***(2)***

Sol. $F = \frac{GM_1M_2}{r^2} = \frac{6.67 \times 10^{-11} \times 1 \times 2}{1} = 2 \times 6.67 \times 10^{-11}$ N

10. A celestial object having huge amount of matter compressed into a very small region with intense gravitational field is
(1) Black hole (2) Neutron star (3) Pulsars (4) Quasars

Ans. ***(1)***

Sol. A celestial object having huge amount of matter compressed into a very small region with intense gravitational field is black hole.

11. The resistance of a wire of unit length and unit area of cross section is
(1) Reactance (2) Conductance (3) Conductivity (4) Resistivity

Ans. ***(4)***

Sol. $R = \rho\frac{\ell}{A}$

$R = \rho\frac{1}{1} =$ $R = \rho$

12. An electric motor requires 220 V of alternating current to run but the supplied alternating voltage is 110 V. Then the device used to run the motor is
(1) Diode (2) Transistor (3) Transformer (4) Capacitor

Ans. ***(3)***

Sol. A transformer is a device that can increase or dcecrease the voltage [step up or step down]. Hence, transformer will be used.

13. A scientist wants to measure the value of acceleration due to gravity at a place, then the device selected by the scientist is
(1) Dynamo (2) Radar (3) Simple pendulum (4) Transducer

Ans. ***(3)***

Sol. For a simple pendulum,

$T = 2\pi\sqrt{\frac{\ell}{g}}$

If the length and time period of a simple pendulum is known, then g can be calculated from it.

14. The substance which is chemically resistant and can hold aqua regia
(1) Ceramics (2) Glass (3) Fibre (4) Thermosetting plastic

Ans. ***(2)***

Sol. Always keep aqua regia in glass container. Plastic containers or metal ones are not appropriate because they can react with this solution.

15. China dish is
(1) Brittle and heat resistant (2) Durable and heat resistant
(3) Brittle and corrosive . (4) Durable and non-corrosive

Ans. ***(2)***

Sol. China dish is used for heating of solution so, it should be durable and heat resistant.

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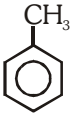
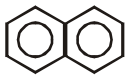
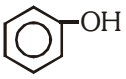
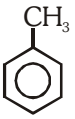
16. The structure of Toluene is represented by

(1)  (2)  (3)  (4) 

Ans. **(2)**

Sol. The structure of toluene is 

17. In saponification process, the fatty acid present in the oils is neutralised by adding

(1) Sodium hydroxide (2) Aluminium hydroxide (3) Calcium hydroxide (4) Magnesium hydroxide

Ans. **(1)**

Sol. In saponification reaction fatty acid are present in oil neutralised with alkali i.e. sodium hydroxide.

18. Diabetic patients sometimes use this artificial sweeteners

(1) Glycerol (2) Cane Sugar (3) Brown Sugar (4) Molasses

Ans. **(1)**

Sol. Glycerol is an unusual sugar alcohol. It has only 40% of the sweetness of sugar and is safe to use for diabetic patients.

19. The technique through which Gold and Silver are refined ?

(1) Electrolytic refining (2) Vacuum melting (3) Liquation process (4) Zone refining

Ans. **(2)**

Sol. Gold & Silver are refined by vacuum melting.

20. Identify the correctly matched set.

1. Football inflated inside and then taken outside on a winter day shrinks slightly	a. Diffusion
2. Deep sea fish die when brought to law of the surface	b. Graham's law of diffusion
3. A balloon filled with helium will deflate a little bit everday	c. Charle's law
4. $r \propto \frac{1}{\sqrt{d}}$	d. Boyle's law

1) 1 -b, 2-c, 3-a, 4-d 2) 1-d, 2-c, 3-b, 4-a 3) 1 -c, 2 - d, 3-a, 4 - b 4) 1-c. 2-d, 3-b, 4-a

Ans. **(3)**

Sol. Charle's law : $V \propto T$ (P = constant)

Boyle's law : $P \propto \frac{1}{V}$

Graham's law of diffusion

Rate of diffusion (r) $\propto \frac{1}{\sqrt{\text{density}}\sqrt{d}}$

Intermixing of gas is called diffusion.

21. The shining finish is given to the walls is given by

(1) Calcium oxide (2) Calcium Carbonate (3) Calcium hydroxide (4) Carbon-di-oxide

Ans. **(2)**

Sol. Calcium carbonate is formed after two or three days of white washing and gives a shiny finish to the walls.

$Ca(OH)_2 + CO_2 \longrightarrow CaCO_3(s) + H_2O$

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22. This does not possess water of crystallisation.
(1) Potassium nitrate (2) Gypsum (3) Copper sulphate (4) Cobalt chloride

Ans. ***(1)***

Sol. Potassium nitrate - KNO_3
Gypsum = $CaSO_4.2H_2O$
Copper sulphate - $CuSO_4.5H_2O$
Cobalt chloride - $CoCl_2.6H_2O$

23. Identify the wrong statement.
(1) Higher the hydronium ion concentration, lower is the pH value
(2) Universal indicator is used to judge how strong a given acid or base is
(3) As the pH value increases from 7 to 14, it represents Increase in H^+ ion concentration in the solution
(4) Values less than 7 on the pH scale represent an acidic solution

Ans. ***(3)***

Sol. As the pH value increases from 7 to 14, OH^- ion concentration increases and it leads to the basic nature of solution.

24. This is not true regarding the micelle.
(1) The micelle stay in solution as a colloid
(2) Micelle will riot come together to precipitate
(3) There is ion-ion repulsion
(4) The dirt suspended in the micelles is very difficult to get rinsed off

Ans. ***(4)***

Sol. The soap micelles help in dissolving the dirt in water and we can wash out clothes easily.

25. This is not a characteristic of members of a homologous series.
(1) They possess varying chemical properties
(2) Their properties vary in regular and predictable manner
(3) Their formulae fit the general molecular formula.
(4) Adjacent members differ by one carbon and two hydrogen atoms

Ans. ***(1)***

Sol. All the members of homologous series show similar chemical properties e.g. substitution reaction is shown by all alkanes.

26. The electronic configuration of copper can be represented in this/these way/ways
1. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1\ 3d^{10}$
2. $[Ar]\ 3d^{10}\ 4s^1$
3. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^9$

(1) Only 1 & 2 are correct (2) Only 2 Is correct (3) Only 2 and 3 are correct (4) Only 1 and 3 are correct

Ans. ***(1)***

Sol. Electronic configuration of Cu -$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1\ 3d^{10}$.
or
$[Ar]\ 3d^{10}\ 4s^1$
Due to stability of fulfilled orbitals.

27. Which one of the following is correct matched set?

A	B
a. Hemp	I. Medicinal Plant
b. Cocoa	II. Oil Plant
c. Leucas	III. Fodder Plant
d. Fenugreek	IV. Beverage Plant
e. Palm	V. Fibre Plant
	VI. Spice Plant

(1) a-V, b-IV, c-I, d-VI, e-II (2) a-VI, b-III, c-II, d-I, e-IV
(3) a-IV, b-II, c-VI, d-III, e-I (4) a-III, b-V, c-VI, d-II. e-I

Ans. ***(1)***

Sol. a-V, b-IV, c-I, d-VI, e-II

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28. Inflammatory reactions in allergy is brought about by

(1) macrophages (2) plasma cells (3) adipose tissue (4) mast cells

Ans. **(4)**

Sol. In Inflammatory allergy reaction, mast cells release histamin, which allow more blood to the site.

29. Assertion (A): Medulla oblongata controls involuntary activities like vomiting, coughing and sneezing.

Reason (R): It has many nerve cells which control automatic reflexes.

(1) 'A' is incorrect and 'R' is correct 'R' is not the correct explanation of 'A'

(2) Both 'A' and 'R' are correct & 'R' explains 'A'

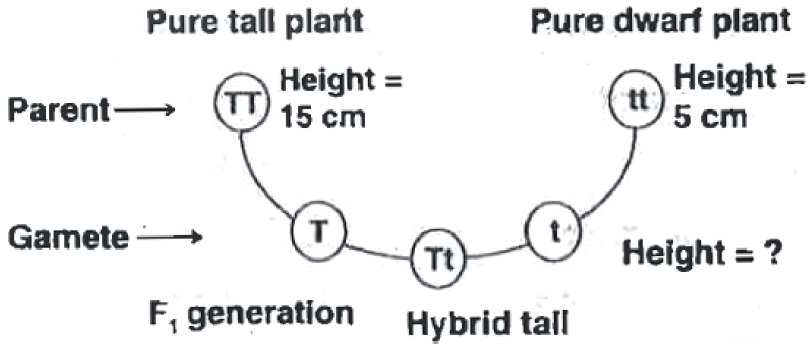
(3) 'A' is correct and 'R' is incorrect 'R' is the correct, explanation of 'A'

(4) Both 'A' and 'R' are incorrect 'R' is not the correct explanation of 'A'

Ans. **(2)**

Sol. Medulla oblongata controls involuntary action, it also has nerves of automatic reflexes.

30. Find out the height of hybrid tall plant (Tt).



(1) 15 cm (2) 10 cm (3) 5 cm (4) Can't say

Ans. **(1)**

Sol. If height of tall plant is 15 cm then hybrid tall will also be 15 cm as per law of dominance

31. The animals which belong to class pisces

A. Jellyfish B. Cow fish C. Starfish D. Flying fish

(1) Both 'A' and'C (2) Both 'B' and 'D' (3) Both'A'and'D' (4) Both 'B' and 'C

Ans. **(2)**

Sol. Both cow fish and flying fish belong to class pisces.

32. Which statement is not true about Thyroxin ?

(1) Iron is very essential for the synthesis of Thyroxin

(2) It regulates carbohydrates, proteins and fat metabolism in the body .

(3) Thyroid gland requires iodine to synthesize thyroxin

(4) Thyroxin is also called Thyroid harmone

Ans. **()**

Sol. Iron is not essential for thyroxine synthesis

33. World AIDS Day is held on this day every year to increase awareness about it

(1) December 10^{th} (2) December 21^{st} (3) December 1^{st} (4) December 31^{st}

Ans. **(3)**

Sol. 1st december is known as world AIDS day.

34. When a doctor is recording pulse he/she is pressing on wrist exactly on a

(1) Vein (2) Capillary (3) Artery (4) Arteriole

Ans. **(3)**

Sol. Pulse is the recording on the surface of artery.

35. Living cells of Xylem tissue

(1) Xylem parenchyma (2) Xylem fibres (3) Xylem vessels (4) Tracheids

Ans. **(1)**

Sol. Xylem parenchyma is living

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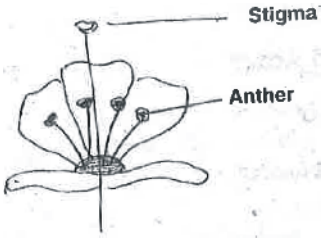
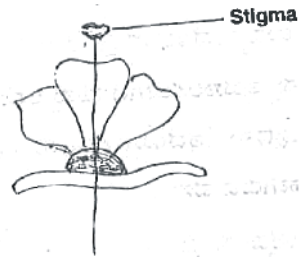
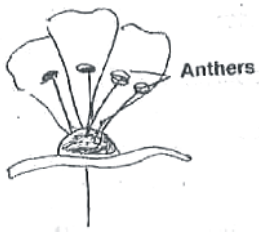
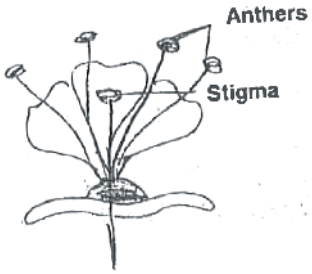
36. Identify the flower which will self pollinate.

(1) 

(2) 

(3) 

(4) 

Ans. ***(4)***

Sol. Both another and stigma are at the same height.

37. A pure tall plant can be identified from hybrid tail plant

(1) by measuring the length of plant (2) by spraying Gibberllins

(3) if all plants are tall after self pollination (4) if all plants are dwarf after self pollination

Ans. ***(3)***

Sol. If all tall plants are tall after self pollination them it will be pure tall

38. An example for exotic breed of cow

(1) Frieswal (2) Friesian (3) Gir (4) Sahiwal

Ans. ***(2)***

Sol. Friesian is an exotic cow breed.

39. In a food industry, food containing oil is prepared and wants to avoid development of foul smell. The substance that need to be added

(1) Antioxidants (2) Preservatives (3) Colourants (4) Flavourarlts

Ans. ***(1)***

Sol. By adding antioixdants we can avoid foul smell.

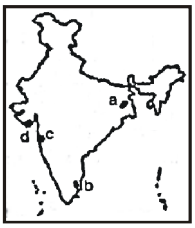
40. Sudden heritable change

(1) Recombination (2) Mutation (3) Natural selection (4) Segregation

Ans. ***(2)***

Sol. Mutation is the sudden heritable change.

41. Locations of trading centres ot tne Portuguese (P), the English (E), the Dutch (D) and the French (F) are shown in the map given below :



Which one of the following sets, represents the locations in the DPEF order ?

(1) b, c, d, a (2) a, b, c, d (3) b, d, c, a (4) c, d, a, b

Ans. ***(4)***

Sol. Puducherry was controlled by French while Bengal was controlled by English.

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42. The map of unified Karnataka is given below :
Identify the shaded territory.

(1) Old Mysore State (2) Mumbai Karnataka (3) Madras Karnataka (4) Hyderabad Karnataka

Ans. (N.A)

Sol. Period has not been mentioned in the question.

43. ***Assertion (A) :*** Trade capitalism tiourisnea in European countries in 17 & 18th centuries.
Reason (R) : Indian economy was immensely benefitted by Industrial Revolution in England.
(1) A is true but 'R' is false
(2) A is false but 'R' is true
(3) Both 'A' and 'R' are true, but 'R' is not the correct explanation of 'A'
(4) Both 'A' and 'R' are true, and 'R' is the correct explanation of 'A'

Ans. ***(1)***

Sol. Indian economy was not benefitted by Industrial Revolution in England.

44. Identify the right set from the following :

Leaders	***Important reforms***
(A) Rajaram Mohan Roy	(i) Universal brotherhood
(B) Dayanand Saraswathi	(ii) Protest against untouchability
(C) Jyothiba Phule	(iii) Blend of Indian and western thoughts
(D) Mrs. Annie Besant	(iv) Prohibition of Sati
	(v) Purification movement

(1) A → v ; B → iii ; C → ii ; D → iv
(2) A → iii ; B → iv ; C → i ; D → ii
(3) A → iv ; B → v ; C → ii ; D → i
(4) A → ii → ; B → (i) ; C → iii ; D → iv

Ans. ***(3)***

Sol. Purification movement is associated with Dayanand Saraswati while prohibition of Sati is linked with Raja Rammohan Roy.

45. Pick out the wrong statement, with reference to the effects of the revolt of 1857.
(1) The company administration came to an end in India
(2) India was made a colony of the British Empire
(3) India was granted 'Dominion Status', within the empire
(4) Queen Victoria's Declaration, assured Indian's of religious freedom

Ans. ***(3)***

Sol. India was not granted Dominion Status in 1857.

46. Which of the following are correct, regarding the English education system in India ?
(a) The Western science and technology were introduced in India
(b) The study of Western literature and history charged Indians with the spirit of nationalism
(c) Sanskrit and Persian educational institutions were fully patronised by the English
(d) English became the link language and promoted unity of Indians
(1) a,b and d (2) c and d (3) a, c and d (4) b and c

Ans. ***(3)***

Sol. Sanskrit and Persian was not patronised by English, British promoted English language.

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47. Read the following statements :

(a) promoting the use of indigenously produced goods in India

(b) boycott of foreign goods

(c) establishment of national educational institutions

Which one of the following movements represents the above mentioned characteristics ?

(1) Home Rule (2) Swadeshi (3) Khilafat (4) Quit India

Ans. **(2)**

Sol. Swadeshi Movement emphasized on boycott of foreign goods and promotion of Indian made goods.

48. ***Assertion (A) :*** The Congress leaders boycotted the Simon Commission.

Reason (R) : Lala Lajpath Rai died due to police caning.

(1) Both 'A' and 'R' are true, but 'R' is not the correct explanation of 'A'

(2) 'A' is true but 'R' is false

(3) 'A' is false but 'R' is true

(4) Both 'A' and 'R' are true and 'R' is the correct explanation of 'A'

Ans. **(1)**

Sol. Simon Commission was boycotted because it was an all White Commission and no Indian was included.

49. Consider the statement given below and select the correct explanation from the responses given thereafter:

The National Conference Leader and Raja Hari Singh merged Kashmir into the Indian Union, in 1947.

(1) Pakistan had communist Government

(2) India was not a member of the American Block

(3) India had a Democratic Republican Constitution

(4) Pakistan was neutral in power politics

Ans. **(2)**

Sol. India was a part of Non Aligned Movement.

50. Which of the following statements are correct regarding the fall of the Soviet Union in 1991 ?

(A) Rise of the U.S. A. as the lone super power

(B) The Commonwealth of Independent States (CIS) became a strong rival of the U.S.A.

(C) End of the cold war

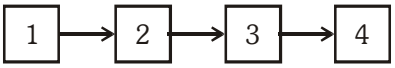
(D) The CIS overpowered the U.S.A. in the field of space technology

(1) A and B only (2) A and C only (3) B and D only (4) A and D only

Ans. **(2)**

Sol. After the fall of USSR, era of Cold War ended and USA became the lone Super Power.

51. The course of rise of modern China is depicted in the following flow diagram. Identify the correct sequence.



(a) The Rise of People's Republic (b) The Great Leap Forward

(c) The Long March (d) Democratic Revolution under Sun-Yat-Sen

(1) 1c, 2b, 3a, 4d (2) 1d, 2c, 3a, 4b (3) 1b, 2d, 3c, 4a (4) 1a, 2b, 3d, 4c

Ans. **(2)**

Sol. 1- Democratic Revolution under Sun-yat Sen

2- The Long March

3- The Rise of People's Republic

4- The Great Leap Forward

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52. ***Assertion (A) :*** The RBI is called the Mother of Banks.
Reason (R) : The RBI formulates the monetary policy which should be followed by all other banks.
(1) 'A' and 'R' are true and 'R' is the correct explanation of 'A'
(2) 'A' and 'R' are true, but 'R' is not the correct explanation of 'A'
(3) 'A' is true but 'R' is false
(4) 'R' is true but 'A' is false

Ans. ***(1)***

Sol. RBI frames the rules and regulations which are followed by all banks.

53. Which one of the following is not a feature of General Insurance?
(1) risk is uncertain
(2) law of indemnity is applicable
(3) lumpsum payment of premium
(4) it's for a long period

Ans. ***(4)***

Sol. General Insurance is for a short period.

54. Consider the following list of business organisations of India :
(a) Tata Consultancy Services
(b) Iron and Steel Industry at Rourkela
(c) Thermal Power Station at Raichur
(d) Ashok Leyland Company
(e) Karnataka Silk Industries Corporation
(f) MTR Chain of Shops and Restaurants
(g) SAM Tours and Travels
(h) The ONGC (Oil and Natural Gas Commission)
Which of these are the outcome of entrepreneurship ?
(1) a, c, f, g
(2) c, d, g, h
(3) a, d, f, g
(4) b, d, f, h

Ans. ***(3)***

Sol. B, C, E & H are government owned companies.

55. Which of the following are associated with globalisation ?
(a) UNESCO
(b) INTELSAT
(c) I.L.O.
(d) W.T.O.
(e) BRICS
(f) W.I.P.O.
(g) I.M.F.
(h) M.N.C.'s
(1) d, a, e, g
(2) d, f, g, h
(3) a, c, e, g
(4) b, c, e, h

Ans. ***(2)***

Sol. IMF, WTO, MNCs and W.I.P.O. are meant for the promotion of international trade and hence are associated with globalisation.

56. Match column-I and column-II and identify the correct answer :

Column-I	***Column-II***
(A) Udhampur	(i) Hill Station
(B) Ranlkhet	(ii) Plateau
(C) Burzil	(iii) Dune
(D) Ladakh	(iv) Mountain Pass

(1) (A) → (iv) ; (B) → (ii) ; (C) → (iii) ; (D) → (i)
(2) (A) → (iii) ; (B) → (i) ; (C) → (iv) ; (D) → (ii)
(3) (A) → (ii) ; (B) → (iii) ; (C) → (iv) ; (D) → (i)
(d) (A) → (i) ; (B) → (iv) ; (C) → (ii) ; (D) → (iii)

Ans. ***(2)***

Sol.

Column-I	***Column-II***
Udhampur	Dune
Ranikhet	Hill Station
Burzil	Mountain Pass
Ladakh	Plateau

57. The highest peak in the Eastern Ghats is
(1) Anaimudi
(2) Mt. Gurushikar
(3) Astamba Dhongar
(4) Armakonda

Ans. ***(4)***

Sol. Highest peak in Eastern Ghats is Arnakonda.

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58. Identify the correct matching :

(A) Kandla	Tidal Port of India
(B) Vishakapatnam	Deepest Port of India
(C) Paradeep	Substitute Port of Kolkata
(D) Karwar	Seabird Naval Port

(1) A B and D (2) A,C and D (3) A Band C (4) B and D

Ans. **(1)**

Sol. Kandla- Tidal Port, Vishakhapatnam - Deepest Port, Karwar - Sea Bird Naval Port

59. Circar Coast is

(1) Northern part of West Coastal plain (2) Southern part of East Coastal plain

(3) Northern part of East Coastal plain (4) Southern part of West Coastal plain

Ans. **(3)**

Sol. Northern part of Eastern Coastal Plain is Circar, southern part is Coromondal.

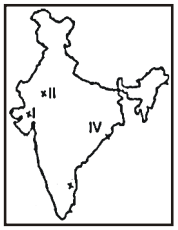
60. The place which experiences minimum and maximum temperature of – 28.3°C and 15°C respectively is

(1) Srinagar (2) Leh (3) Simla (4) Kulu

Ans. **(2)**

Sol. Leh

61. Match the lakes on the map of India (I, II, III, IV) with their respective names;



(A) Sambhar (B) Chilka (C) Kolleru (D) Nal

(1) A → II, B → IV, C → III, D → I (2) A → IV, B → III, C → l, D → ll

(3) A → II, B → III, C → IV, D → I (4) A → I, B → II, C → III, D → IV

Ans. **(1)**

Sol. Sambhar Lake - Rajasthan
Chillka Lake - Odisha
Kolleru Lake - Tamil Nadu
Nal - Gujarat

62. Column–I is the list of States and Column–II is the names of rainfall during April and May. Match it

Column–I	***Column–II***
(A) Kerala	(i) Andhis
(B) Karnataka	(ii) Kalabaisakhl
(C) Uttar Pradesh	(iii) Coffee blossoms
(D) West Bengal	(iv) Mango Showers

(1) A → (iii), B → (iv), C → (ii), D → (i) (2) A → (i), B → (ii), C → (iii), D → (iv)

(3) A → (iv), B → (iii), C → (i), D → (ii) (4) A → (ii), B → (i), C → (iv), D → (iii)

Ans. **(3)**

Sol. Kerala - Mango Showers
Karnataka - Coffee Blossoms
U.P. - Aandhi
West Bengal - Kaal Baisakhi

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63. Read these statements and Identify the type of forests.

(i) They are seen in 75-250 cm of rainfall areas

(ii) They covered 66% of the total area of forests in India

(iii) Teak, Sal, Rosewood and Sandalwood are important trees

(1) Evergreen Vegetation (2) Tropical Grassland (3) Alpine forests (4) Tropical Deciduous forests

Ans. **(4)**

Sol. All the characterstics are of Tropical Deciduous Forests.

64. Assertion : (A) Tank Irrigation is practised in Tamil Nadu.

Reason : (R) The slope of the terrain does not permit canal irrigation.

(1) Both 'A' and 'R' are true and 'R' explanation of 'A'

(2) Both 'A' and 'R' are true but 'R' does not explain of 'A'

(3) 'A' is true but 'R' is false

(4) 'A' is false but 'R' is true

Ans. **(3)**

Sol. Tamil Nadu lacks in rainfall. Perennial rivers are not present hence Tank Irrigation is practised.

65. Column-I is the list of States and Column-II is the mineral production.

Match it.

Column–I	***Column–II***
(A) Jharkhand	(1) Mica
(B) Odisha	(2) Coal
(C) Andhra Pradesh	(3) Thorium
(D) Kerala	(4) Bauxite

(1) A – 2, B – 4, C – 1, D – 3 (2) A – 3, B – 1, C – 4, D – 2

(3) A – 3, B – 4, C – 2, D – 1 (4) A – 1, B – 2, C – 3, D – 4

Ans. **(1)**

Sol. Jharkhand - Coal

Odisha - Bauxite

Andhra Pradesh - Mica

Kerala - Thorium

66. 'Slash and burn' primitive form of cultivation in Jharkhand is called

(1) Bewar (2) Podu (3) Waltre (4) Kuruwa

Ans. **(4)**

Sol. Slash and Burn Agriculture is called “Kuruwa” in Jharkhand.

67. The practice of untouchability is dying down because of the gradual increase in

(1) Income (2) Social status (3) Occupation (4) Literacy

Ans. **(4)**

Sol. Literacy levels are rising.

68. Read the statements and identify the correct answer:

(i) It leads to sufficient expertise

(ii) Training and skill

(iii) Helped to earn economic benefits

(iv) it creates economic strata

(1) Discrimination in Labour (2) Division of Glass

(3) Division of Labour (4) Unemployment

Ans. **(3)**

Sol. All the charactertics define the Division of Labour.

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69. Organized and directed towards specific goal its aims to bring about social change is called

(1) Movement (2) Mobs (3) Riots (4) Group Clashes

Ans. ***(1)***

Sol. Movements aim to bring about social change.

70. Industrialists will have to mandatorily contribute Rs. 20,000 per child labour to the welfare fund who violate the law of

(1) RehabilitationWelfare Fund of Child Labours

(2) Child Labour Prohibition and Control Act, 1986

(3) National Child Labour Project, 1983

(4) Child Labour Eradication and Rehabilitation Act, 2006

Ans. ***(2)***

Sol. Child Labour Prohibition and Control Act, 1986 has the following provision.

71. "This World in arms is not spending money alone ; It is spending the sweat of its Labourers, genius of its scientists, the hopes of its children" - This statement is given by

(1) Mahatma Gandhiji (2) Eisenhower (3) Nelson Mandela (4) Jawaharlal Nehru

Ans. ***(2)***

Sol. Eisenhower said these lines.

72. India is facing intense Economic inequality. The main reasons for it

(A) Operation of multinational companies (B) High Salary Syndrome

(C) Principle of Progressive Taxation (D) White collar jobs

(E) Reservation Facilities

Which of the above statements are True ?

(1) A, B and E (2) B, D and E (3) A, B and D (4) C, D and E

Ans. ***(3)***

Sol. *

73. Column–A is the list of Agencies of UNO, Column–B is the list of years of establishment and Column–C is the list of Head Quarters.

Column–A	Column–B	Column–C
A. FAO	E. 1948	I. Paris
B. WHO	F. 1947	J. Rome
C. UNESCO	G.. 1945	K. Washington
D. IBRD	H. 1946	L. Geneva

Which one of the following correctly matched set ?

(1) AEL, BGK, CFJ, DHI (2) AGJ, BEL, CHI, DFK (3) AHI, BFJ, CGK, DEL (4) AHK, BEI, CFJ, DGL

Ans. ***(4)***

Sol. FAO - formed in 1945, HQ at Rome

WHO - formed in 1948. HQ at Geneva

74. Which one of the following is correctly matched?

A Kargil War – India and Pakisthan

B. Panchasheela – India and China

C. LTTE – India and Nepal

D. Twenty Years Treaty of Co-operation – India and Russia

Choices:

(1) A, B and C only (2) A, C and D only (3) B, C and D only (4) A, B and D only

Ans. ***(4)***

Sol. LTTE - Between India and Sri Lanka

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75. Read the following.

A. It divided the World into two power blocs after II world war

B. America and Russia took the leadership of these blocs

C. Polarization of power took place under the concepts of Democracy and Communism

D. India was neutral in it

Which one of the fol lowing represents the above characteristics?

(1) Colonialism (2) Disarmament (3) Terrorism (4) Cold War

Ans. (4)

Sol. All the features describe Cold War.

76. Identify the correct combination of statements related to 'NITI'Ayoga.

A. Substitute Institution of National Planning Commission

B. Established on 01 January 2015

C. Finance Minister of Govt. of India is a Chairman of this Institute

D. Slndhushree Khullar appointed as the Chief Executive Officer of this institute

(1) A, B and D only (2) A and B only (3) B, C and D only (4) A, B and C only

Ans. (2)

Sol. Prime Minister head of the NITI Aayog.

77. Identify the correct choice of matched Items in Column–'A' with those of Column–B

Column–A	***Column–B***
A. White Revolution	i. Production of Eggs
B. Silver Revolution	ii. Production of Oil seeds
C. Golden Revolution	iii. Production of Milk
D. Red Revolution	iv. Production of Meat
	v. Production of Flowers / Fruits

Choices :

(1) A – i, B – iii, C – v, D – ii (2) A – iii, B – iv, C – i, D – ii

(3) A – i, B – iii, C – v, D – iv (4) A – iii, B – i, C – v, D – iv

Ans. (4)

Sol. White Revolution - Milk Production

Silver Revolution - Production of Eggs

78. The main objective of 'PURA' project is

(1) to provide shelter for shelterless people in Urban areas

(2) to eliminate rural poverty and unemployment

(3) to provide Urban amenities in rural areas

(4) expansion and modernization of Urban areas

Ans. (3)

Sol. "PURA" aims to provide Urban Amenities in rural areas.

79. Choose the correct sequence to indicate the following statements as True (T) or False (F).

A. In Public Finance Government calculates their income before hand and then spend it accordingly

B. Public Financial transactions are kept confidential

C. In Public Finance, when government saves money, growth is stunted

Choices:

(1) TTF (2) FFT (3) T F T (4) F T F

Ans. (3)

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80. The following is the list of taxes imposed by government

A. Excise duty
B. Income Tax
C. Corporate Tax
D. Stamp Duty
E. Service Tax
F. Import-Export Tax

Which one of the following groups indicates direct and indirect Taxes respectively ?

(1) ADE and BCF (2) BEFand ACD (3) BCD and AEF (4) ABFand CDE

Ans. ***(3)***

Sol. Direct Taxes - Income Tax and Corporate Tax

Indirect Taxes - Excise Duty and Service Tax

81. If m and n are the roots of $x^2 - px + q = 0$ then the value of $p^3 - 3pq$ is

(1) $m^3 + n^3$ (2) $m^3 - n^3$ (3) $m^3 + n^3 + mn$ (4) $m^3 - n^3 + mn$

Ans. ***(1)***

Sol. $x^2 - px + q = 0$

Let m,n are the roots.

$\therefore \quad m + n = p$

$mn = q$

$\therefore \quad p^3 - 3pq = (m + n)^3 - 3(m + n)(mn)$

$= m^3 + n^3$

82. There are 10 points in a plane of which 4 are collinear, the maximum number of straight line that can be drawn from these points will be

(1) 40 (2) 45 (3) 46 (4) 36

Ans. ***(1)***

Sol. Maximum number of straight line = $^{10}C_2 - {}^4C_2 + 1$

$$= \frac{10\times 9}{2} - \frac{4\times 3}{2} + 1$$

$$= 45 - 6 + 1 = 40$$

83. $\sqrt{8+2\sqrt{15}} - \sqrt{8-2\sqrt{15}}$ is

(1) $2\sqrt{5}$ (2) $\sqrt{8}$ 3) $\sqrt{12}$ (4) $\sqrt{5}$

Ans. ***(3)***

Sol. $\sqrt{(\sqrt{5}+\sqrt{3})^2} - \sqrt{(\sqrt{5}-\sqrt{3})^2}$

$\sqrt{5} + \sqrt{3} - \sqrt{5} + \sqrt{3} = 2\sqrt{3} = \sqrt{12}$

84. 'O' is a point in the ΔABC, OA, OB and OC are jointly and produced to meet BC, CA and AB at D, E and F respectively, then the value of $\frac{OD}{AB} + \frac{OE}{BE} + \frac{OF}{CF}$ is

(1) 4 (2) 3 (3) 2 (4) 1

Ans. ***(NA)***

Sol. In this question the answer will come out when AD is given in the question in the place of AB. So none of the given option is correct.

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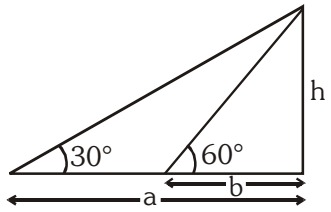
85. The angle of elevation of the top of a tower from two points distant a and b (a > b) from its foot and in the same straight line from it are 30° and 60°. The height of the tower is

(1) a + b (2) $\sqrt{ab}$ (3) $\sqrt{a+b}$ (4) ab

Ans. ***(2)***

Sol.



$\tan 60° = \sqrt{3} = \frac{h}{b}$

$\tan 30° = \frac{1}{\sqrt{3}} = \frac{h}{a}$

$h = \sqrt{3}\, b$ ...(1)

$h = \frac{a}{\sqrt{3}}$ ...(2)

On multiplying eq. (1) & (2) we get,

$h^2 = \cancel{\sqrt{3}}\, b.\frac{a}{\cancel{\sqrt{3}}} = ab$

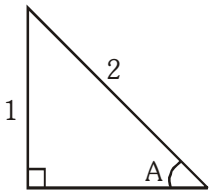
$\Rightarrow h = \sqrt{ab}$

86. Sin A = $\frac{1}{2}$ then (Sin2A – CosA) is

(1) $\frac{\sqrt{3}}{2}$ (2) $\frac{1}{2}$ (3) 1 (4) 0

Ans. ***(4)***

Sol. As sin A = $\frac{1}{2} = \frac{P}{H}$,



then using pythagoras theorem, we get

$B = \sqrt{H^2 - P^2} = \sqrt{2^2 - 1^2} = \sqrt{3}$

Then sin 2A – cosA = 2sinA cosA – cosA

$= 2 \times \frac{1}{2} \times \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2}$

$= \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} = 0$

87. In an AP, the common difference is double the first term. If first term is 'a' then the n^{th} term is

(1) 2 an (2) (2n + 1) a (3) (2n-1)a (4) 2(n + 1)a

Ans. ***(3)***

Sol. d = 2a

n^{th} term = a + (n – 1)d = a + (n – 1) 2a

= 2an – a

= (2n – 1) a

(Taking 'a' common from both term).

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88. If the roots of the equation $x^2 - 2bx + 8 = 0$ are real, then 'b' must be

(1) $>2\sqrt{2}$ (2) $< 2\sqrt{2}$ (3) >0 (4) <0

Ans. ***(1)***

Sol. As roots are real

So $D > 0$

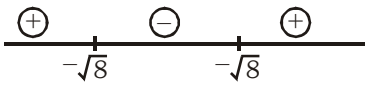
$b^2 - 4ac > 0$

$(-2b)^2 - 4 \times 1 \times 8 > 0$

$\Rightarrow 4b^2 - 32 > 0$

$\Rightarrow b^2 - 8 > 0$

$\Rightarrow (b + \sqrt{8})(b - \sqrt{8}) > 0$

$\Rightarrow$  $\Rightarrow \begin{matrix} b > \sqrt{8} \\ b < -\sqrt{8} \end{matrix} \Rightarrow b > 2\sqrt{2}$ and $b < -2\sqrt{2}$

So option '1' is correct.

89. Sum of the squares of two consecutive odd numbers added by 6 is always divisible by

(1) 5 (2) 6 (3) 8 (4) 9

Ans. ***(3)***

Sol. $(2n - 1)$ & $(2n + 1)$ be

two consecutive odd integers.

$(2n - 1)^2 + (2n + 1)^2 + 6$

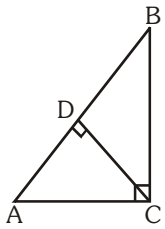
$= 4n^2 - \cancel{4n} + 1 + 4n^2 + \cancel{4n} + 1 + 6$

$\Rightarrow 8n^2 + 8$

$\Rightarrow 8(n^2 + 1)$

or this is divisible by 8.

90.



In ΔABC, $\angle ACB = 90°$, $AC = 4$ and $BC = 3$ then the value of $CD \times AB$ is

(1) 20 (2) 15 (3) 12 (4) 10

Ans. ***(3)***

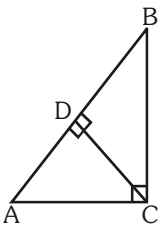
Sol. Given : $\angle ACB = 90°$

$AC = 4$, $BC = 3$

Using pythagoras theorem,

We get, $AB = 5$

Now $\Delta ACD \sim \Delta ABC$



$$\frac{AC}{AB} = \frac{CD}{BC} = \frac{DA}{AC}$$

$$\Rightarrow \frac{4}{5} = \frac{CD}{3}$$

$$\Rightarrow CD = \frac{12}{5}$$

So, $AB \times CD = \frac{12}{5} \times 5 = 12$

Option '3' is correct.

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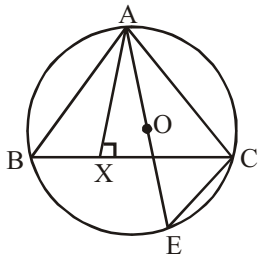
91.



In the given figure 'O' is the centre of circle. If AB = 6 and AC = 5 then the product of AO and AX is

(1) 15 (2) 20 (3) 25 (4) 30

Ans. ***(1)***

Sol. As 'O' is centre, so AE is diameter

$\Rightarrow \angle ACE = 90°$,

Also given $\angle AXB = 90°$

Also, $\angle ABX = \angle AEC$ (angle substended by same arc)

$\Delta ABX \sim \Delta AEC$ (by AA similarity)

$$\frac{AB}{AE} = \frac{BX}{EC} = \frac{AX}{AC}$$

As 'O' is centre, AE = 2AO

$$\frac{AB}{2AO} = \frac{BX}{EC} = \frac{AX}{AC}$$

$2AO \times AX = AC \times AB$

$2 \times AO \times AX = 5 \times 6$

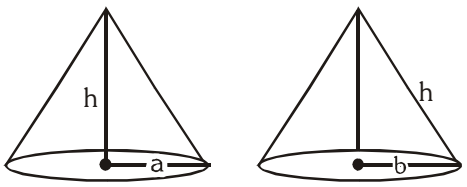
$\Rightarrow AO \times AX = 15$

92. Two solid right circular cones have the same height. The radii of their bases are a and b. They are melted and recast into a cylinder of same height. The radius of the base of the cylinder is

(1) $\frac{a+b}{\sqrt{3}}$ (2) $\frac{a+b}{3}$ (3) $\frac{\sqrt{a+b}}{3}$ (4) $\sqrt{\frac{a^2+b^2}{3}}$

Ans. ***(4)***

Sol.



Volume of cones is $= \frac{1}{3}\pi[a^2 + b^2]h$

Volume of cylinder $= \pi r^2 h$

(r is the radius of cylinder)

$$\frac{1}{3}\cancel{\pi}[a^2 + b^2]\cancel{h} = \cancel{\pi} r^2 \cancel{h}$$

$$\sqrt{\frac{a^2+b^2}{3}} = r$$

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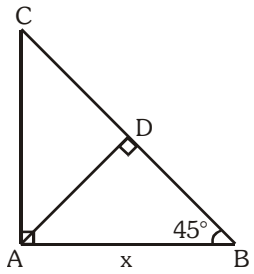
93. In ΔABC, $\angle BAC = 90°$, $AD \perp BC$ and $\angle B = 45°$, $AB = x$ then AD is

(1) $\sqrt{2}\,x$ (2) x (3) $\frac{x}{2}$ (4) $\frac{x}{\sqrt{2}}$

Ans. ***(4)***

Sol.



In ΔADB,

$AD = BD$ ($\angle DAB = \angle DBA = 45°$)

So, $AD^2 + BD^2 = x^2$ (Pythagoras theroem)

$\Rightarrow AD^2 + AD^2 = x^2$

$\Rightarrow 2AD^2 = x^2$

$$AD = \sqrt{\frac{x^2}{2}} = \frac{x}{\sqrt{2}}$$

94. Bhavana is one among 7 Badminton player. The probability of selecting Bhavana as player in 5 players team is

(1) $\frac{1}{7}$ (2) $\frac{2}{7}$ (3) $\frac{4}{7}$ (4) $\frac{5}{7}$

Ans. ***(4)***

Sol. No. of favourable outcomes $= {}^6C_4$

No. of total outcomes $= {}^7C_5$

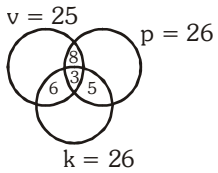
$$\therefore \text{ Probability} = \frac{{}^6C_4}{{}^7C_5} = \frac{5}{7}$$

95. In a survey of 60 people it was found that 25 people read newspaper 'V', 26 read news paper 'P', 26 read newspaper'K', Nine of them read both 'V' and 'K', 11 read both 'V' and 'P', Eight read both 'P' and 'K', Three read all three newspapers. The number of people who read exactly one newspaper is

(1) 22 (2) 30 (3) 52 (4) 77

Ans. ***(2)***

Sol.



$n(V \cap K) = 9$

$n(V \cap P) = 11$

$n(P \cap K) = 8$

$n(V \cap K \cap P) = 3$

So, n(exactly v) $= 25 - 8 - 6 - 3 = 8$

n(exactly p) $= 26 - 8 - 3 - 5 = 10$

n(exactly k) $= 26 - 6 - 3 - 5 = 12$

so, n(exactly one) $= 8 + 10 + 12 = 30$

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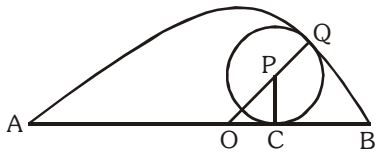
96. The Quotient obtained on dividing $(8x^4 - 2x^2 + 6x - 7)$ by $(2x + 1)$ is $(4x^2 + px^2 - qx + 3)$. The value of $(q - p)$ is

(1) 0 (2) –2 (3) 2 (4) 4

Ans. ***(NA)***

Sol. Answer will come when $4x^3$ will be at place of $4x^2$ so according to question, none of the option is correct.

97.

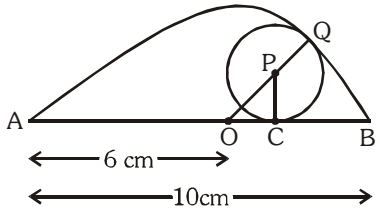


In the above figure O and P are centres of circles AB = 10 cm and AC = 6 cm then diameter of smaller circle is

(1) 8 cm (2) 4.8 cm (3) 4 cm (4) 2 cm

Ans. ***(2)***

Sol.



So, BC = AB – AC

= 10 – 6 = 4 cm

OB = 5 cm

$\therefore$ OC = 5 – 4 =1 cm

So, In ΔOPC

PC = r, OC = 1 cm

OP = OQ – PQ = 5 – r

$\therefore$ $(5 - r)^2 = r^2 + 1^2$

$25 + r^2 - 10r = r^2 + 1$

$24 = 10\,r$

$r = 2.4$ cm

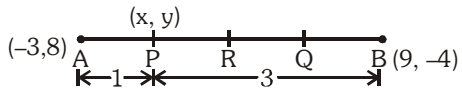
So, diameter = 4.8 cm

98. The points P, R and Q divide the line joining of A(- 3,8) and B(9, - 4) into four equal parts. If 'P' is nearer to 'A', then 'P' is

(1) (6, – 1) (2) (3, 5) (3) (0, 5) (4) (–3, 5)

Ans. ***(3)***

Sol.



so, AP : PB = 1 : 3

$\frac{9 + 3(-3)}{4} = x$, $x = 0$; $y = \frac{-4 + 24}{4} = 5$

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99. A cone and a hemisphere have equal bases and equal volumes the ratio of the heights of cone and hemisphere is

(1) $1 : \sqrt{4}$ (2) 2 : 1 (3) 4 : 1 (4) $\sqrt{2} : 1$

Ans. ***(2)***

Sol. $\frac{V_{cone}}{V_{Hemisphere}} = \frac{\frac{1}{3}\pi r^2 h}{\frac{2}{3}\pi r^3} = \frac{h}{2r}$

Height of hemisphere $\neq$ Height of cone

So, $1 = \frac{h}{2r}$

$h = 2r$

So, $\frac{h}{r} = \frac{2}{1}$ or 2 : 1

100. The mean and variance of eight observations are 9 and 6.25 respectively. The standard deviation of these scores is

(1) 3 (2) 2.5 (3) 6.25 (4) 9

Ans. ***(2)***

Sol. $\sqrt{\text{variance}} = \text{S.D}$

$\Rightarrow \text{S.D.} = \sqrt{6.25} = 2.5$

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