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COMPUTER BASED EXAMINATION

TIER-I Objective Type

Dates of Computer Based Exam (Tier-I)	Part	Subject (Not in sequence)	Maximum Marks	Time Duration (For all four Parts)
August 2023	I	English Language (Basic Knowledge) (25 questions)	50	60 Minutes (80 Minutes for candidates eligible for describe as per para - 7.1, 7.2 and 7.3)
	II	General Intelligence (25 questions)	50	
	III	Quantitative Aptitude (Basic Arithmetic Skill) (25 questions)	50	
	IV	General Awareness (25 questions)	50	

SSC CHSL (Tier-I)

Solved Paper

Exam Held on **March 10, 2023** (Shift-1)

Instructions

1. This paper contains 100 questions. Each question carries 2 mark.
2. This paper has 4 Part, Part 1 General English, Part 2 Reasoning Ability, Part 3 Quantitative Aptitude and Part 4 General Awareness.

Part 1 General English

1. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Atmospheric rivers are long, narrow bands of moisture in the atmosphere that extends from the tropics to higher latitudes.
(a) tropics to higher latitudes.
(b) of moisture in the atmosphere that extends from the
(c) No error
(d) Atmospheric rivers are long, narrow bands

↘ ***(b)*** Part (b) of the given sentence has an error in it. As the subject of the sentence 'Atmospheric rivers' is plural, a plural verb 'extend' should be used with it.

2. Select the most appropriate 'one word' for the expression given below.
A professional rider in horse race.
(a) Jockey (b) Horse Pilot
(c) Autocrat (d) Cellar

↘ ***(a)*** 'Jockey' refers to a person who is a 'professional rider in horse race'.

3. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.
The snowstorm will <u>effect thousand</u> of travellers.
(a) No improvement
(b) affect thousands
(c) effect thousands
(d) affected thousand

↘ ***(b)*** 'affect' (verb) should be used in place of 'effect' (noun) to improve the underlined part in the given sentence.

4. Select the correct indirect form of the given sentence.
The mayor said to the marshals, "Don't conduct any drill tomorrow."
(a) The mayor ordered the marshals not to conduct any drill the previous day.
(b) The mayor ordered the marshals not to conducted any drill the next day.
(c) The mayor ordered the marshals not to conduct any drill the next day.
(d) The mayor ordered the marshals not to conduct any drill tomorrow.

↘ ***(c)*** 'The mayor ordered the marshals not to conduct any drill the next day' is the correct indirect form of the given sentence.

5. Choose the word that can substitute the given group of words.
Containing more words than necessary
(a) Revenant (b) Platonic
(c) Laconic (d) Verbose

↘ ***(d)*** The word 'Verbose' means using more words than necessary and therefore long and boring.

6. Choose the word that is opposite in meaning to the given word.
Adequate
(a) Indolent
(b) Wanting
(c) Superficial
(d) Taunting

↘ ***(b)*** The word 'Adequate' means good enough or large enough for a particular purpose. So, 'wanting' from the given options is opposite in meaning to 'Adequate'.

7. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To meet one's Waterloo
(a) To meet one's look alike
(b) To face the reality
(c) To be badly defeated in a contest
(d) To realise one's mistake

↘ *(c)* The idiom 'To meet one's Waterloo means to be defeated by someone who is too strong for you or by a problem that is too difficult for you.

8. Rearrange the parts of the sentence in correct order.
In a recent study,
P. little free time like a single parent nurse caring for
Q. more than one child and working long hours are
R. we showed that people on low incomes with
S. set to lose out most as energy prices rise
(a) PQSR (b) SPQR
(c) RPQS (d) RQSP

↘ *(c)* The correct order to form a meaningful sentence is RPQS.

9. Choose the word that can substitute the given group of words.
One who does not know reading or writing.
(a) Fastidious (b) Scholar
(c) Illiterate (d) Erudite

↘ *(c)* 'Illiterate' refers to 'one who does not know reading or writing'.

10. Choose the incorrectly spelt word.
(a) Transparent (b) Letter
(c) Scatter (d) Monstar

↘ *(d)* Option (d) contians the incorrectly spelt word. The correct spelling is 'Monster'.

11. Select the correct passive form of the given sentence.
She forgot the papers in the car.
(a) The papers was forgotten by her in the car.
(b) The papers are forgotten by her in the car.
(c) The papers were forgotten by her in the car.
(d) The papers had been forgotten by her in the car.

↘ *(c)* 'The papers were forgotten by her in the car.' is the correct passive form of the given sentence.

12. Rearrange the parts of the sentence in correct order.
P. some 81 percent of the reefs in the area had become severely bleached
Q. warm seawater were particularly brutal in the Northern part of
R. Australia's famous Great Barrier Reef, where surveys reported that
S. from late 2015 to the middle of 2016, the effects of overly
(a) SQRP (b) QRPS
(c) PSQR (d) SPQR

↘ *(a)* The correct order to form a meaningful sentence is SQRP.

13. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
It turns out that my father isn't alone.
(a) No error (b) It turns out
(c) that my father (d) isn't alone.

↘ *(a)* The given sentence is grammatically correct and contextually meaningful.

14. Choose the word that is opposite in meaning to the given word.
Objurgation
(a) Commination (b) Hamper
(c) Reproof (d) Endorsement

↘ *(d)* 'Objurgation' means to scold severely. So, 'Endorsement' is opposite in meaning to it as it means an occasion when someone gives official public support to a particular person or thing.

15. Fill in the blank with the most suitable word.
One may ..... what he only holds in trust; he shares what is his own.
(a) appropriate
(b) allocate
(c) appellate
(d) apply

↘ *(b)* 'Allocate' is the most suitable word to fill in the blank as it means to officially given something to someone.

16. Choose the word that can substitute the given group of words.
A remedy for all ills
(a) Rustic (b) Panacea
(c) Libertine
(d) Convalescent

↘ *(b)* 'Panacea' means something that will solve all problems or cure all illnesses.

17. Choose the word that means the same as the given word.
Eagerly
(a) Plainly (b) Avidly
(c) Perfunctorily (d) Neatly

↘ *(b)* 'Avidly' means is an extremely eager or interested way. So, it means the same as 'Eagerly'.

18. Select the word that is opposite in meaning (antonym) to the word given below.
Celestial
(a) Terrestrial (b) Stellar
(c) Heavenly (d) Divine

↘ *(a)* 'Celestial' means of or from the sky or outside the world. 'Terrestrial' is opposite in meaning to 'celestial' as it means relating to Earth.

19. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.
To be in two minds
(a) To be less effective
(b) To be over confident
(c) In a dilemma
(d) To migrate

↘ *(c)* The idiom 'To be in two minds' means to be unable to decide what to do or what you think about something.

20. Choose the sentence with no spelling error.
(a) I do not require any technichal knowledge or expertise.
(b) I do not requir any technical knowledge or expertice.
(c) I do not require any technical knowledge or expertise.
(d) I do not require any technical knowlege or expertice.

↘ *(c)* The sentence given in option (c) does not contain any spelling error in it.

Directions (Q. Nos. 21-25) *In the following passage some of the words have been deleted. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.*

The difference between the solar radiation absorbed and the thermal radiation emitted to space (1) ..... radiation budget of the Earth. Since there is no appreciable long-term trend in planetary temperature, it may be (2) ..... that this budget is essentially zero on a global long term average.

The rate of temperature change in any region is directly (3) ..... to energy budget of the region and inversely proportional to its heat capacity.

While the radiation (4) ..... may dominate the average energy budget of many surfaces, nonradiative energy transfer and storage also are (5) ..... important when local changes are considered.

21. Select the most appropriate option to fill in blank number 1.
(a) placates (b) determines
(c) duplicates (d) examines

↘ ***(b)*** 'determines' is most appropriate to fill in blank number 1.

22. Select the most appropriate option to fill in blank number 2.
(a) concluded (b) faded
(c) exercised (d) pleaded

↘ ***(a)*** 'concluded' is most appropriate to fill in the blank number 2.

23. Select the most appropriate option to fill in blank number 3.
(a) hospitable (b) twisted
(c) symmetrical (d) proportional

↘ ***(d)*** 'proportional' is most appropriate to fill in the blank number 3.

24. Select the most appropriate option to fill in blank number 4.
(a) heat (b) crescent
(c) balance (d) budget

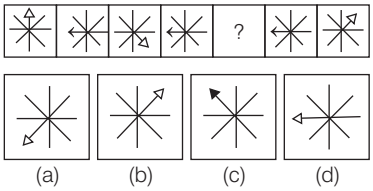
↘ ***(d)*** 'budget' is most appropriate to fill in the blank number 4.

25. Select the most appropriate option to fill in blank number 5.
(a) cynically (b) generally
(c) modestly (d) manually

↘ ***(b)*** 'generally' is most appropriate to fill in blank number 5.

Part 2 Reasoning Ability

26. Select the figure from the given options that can replace the question mark (?) in the following series.

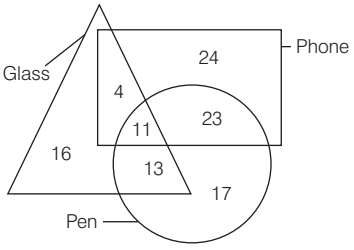


↘ ***(d)*** Here, the arrow head moves 3 steps in clockwise direction alternatively from 1st figure to 3rd figure and so on. So, option figure (d) will replace the question mark (?) in the given series.

27. Select the option that is related to the fifth word in the same way as the second word is related to the first word and the fourth word is related to the third word.
Truck : Vehicle :: Burger : Food :: Glass : ?
(a) Furniture (b) Electronics
(c) Crockery (d) Grocery

↘ ***(c)*** Truck is a type of vehicle. Burger is a type of food. Similarly, a glass is a type of crockery.

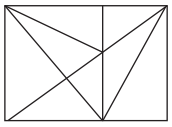
28. How many glass are both phone and pen?



(a) 13 (b) 24
(c) 11 (d) 15

↘ ***(c)*** Number of glass that are both phone and pen will be enclosed by circle, triangle and rectangle i.e. 11.

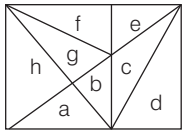
29. How many triangles are there in the given figure?



(a) 21 (b) 22
(c) 20 (d) 19

↘ ***(a)*** Number of single triangles = 8 (a to h)

Number of triangles taking two single triangle at a time = 7



(ab, bc, ce, ef, gh, ah, bg)

Number of triangles taking three single triangles at a time = 3 (abc, efg, bgf)

Number of triangles taking more than three single triangle at a time = 3

(abcd, efgh, bcefg)

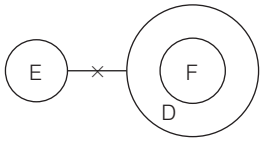
Total number of triangles
= 8 + 7 + 3 + 3 = 21

30. In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Statements
I. No E is F.
II. All F are D.

Conclusions
I. No E is D.
II. Some D are F.
III. No F is E.
(a) Both Conclusions I and III follows
(b) All conclusion follows
(c) Both Conclusions I and II follows
(d) Both Conclusions II and III follows

↘ ***(d)*** From the given statements.



Conclusions
I. (×) II. (✓) III. (✓)
So, both Conclusions II and III follows.

31. By Interchanging the given two numbers (Not digits) which of the following equation will be not correct?
3 and 8
I. $6 \div 2 \times 8 + 3 - 1 = 17$
II. $9 + 3 - 6 \div 2 \times 8 = 6$
(a) Neither I nor II
(b) Only II
(c) Both I and II
(d) Only I

↘ ***(c)*** By interchanging 3 and 8, the equation
I. $6 \div 2 \times 8 + 3 - 1 = 17$
$\Rightarrow \quad 6 \div 2 \times 3 + 8 - 1 = 17$

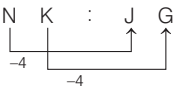
$\Rightarrow \quad 3\times3+8-1=17$
$\Rightarrow \quad 17-1=17$
$\Rightarrow \quad 16\neq17$
II. $9+3-6\div2\times8=6$
$\Rightarrow \quad 9+8-6\div2\times3=6$
$\Rightarrow \quad 17-3\times3=6$
$\Rightarrow \quad 17-9=6$
$\Rightarrow \quad 8\neq6$
So, both equations are not correct.

32. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.
(**Note** Operations should be performed on the whole numbers, without breaking down the number into its constituent digits. E.g., 13-Operations on 13 such as adding/subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(136, 48, 184)
(189, 37, 226)
(a) (211, 17, 238)
(b) (203, 69, 262)
(c) (148, 84, 222)
(d) (116, 62, 178)

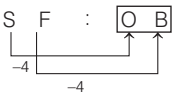
↘ *(d)* Here,
(136, 48, 184) $\Rightarrow 136+48=184$
(189, 37, 226) $\Rightarrow 189+37=226$
Similarly,
(116, 62, 178) $\Rightarrow 116+62=178$

33. In the following question, select the related letters from the given alternatives.
NK : JG :: SF : ?
(a) OB (b) UA
(c) BU (d) AS

↘ *(a)* Here,

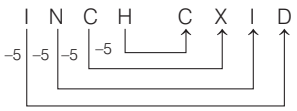


Similarly,

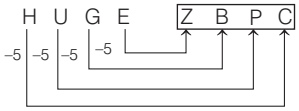


34. In a certain code language, 'INCH' is coded as 'CXID'. What is the code for 'HUGE' in that code language?
(a) ZCPC (b) ZBQC
(c) ZBPC (d) ZBPD

↘ *(c)* Here,



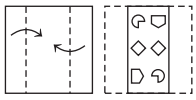
Similarly,

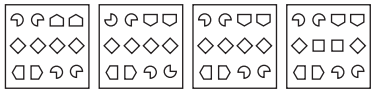


35. If 34 C 59 D 16 = –9 and 61 C 32 D 14 = 43, then 58 C 7 D 11 = ?
(a) 59 (b) 63
(c) 62 (d) 64

↘ *(c)* Here 'C' = '–' and 'D' = +
As, 34 C 59 D 16 = –9
$\Rightarrow \quad 34-59+16=-9$
$\Rightarrow \quad 50-59=-9$
$\Rightarrow \quad -9=-9$
Also, 61 C 32 D 14 = 43
$\Rightarrow \quad 61-32+14=43$
$\Rightarrow \quad 75-32=43$
$\Rightarrow \quad 43=43$
So, 58 C 7 D 11 = 58 – 7 + 11
= 69 – 7 = 62

36. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?





↘ *(c)* When opened the paper will appear as shown in option figure (c).



37. Arrange the given words in the sequence in which they occur in the dictionary.
1. Mayor 2. Maybe
3. May 4. Mayst
5. Mayfly
(a) 3, 2, 1, 4, 5
(b) 3, 2, 1, 5, 4
(c) 3, 2, 5, 1, 4
(d) 3, 2, 4, 5, 1

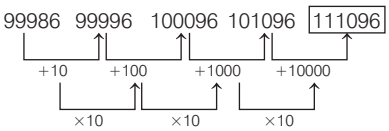
↘ *(c)* According to the dictionary, give words are
May < Maybe < Mayfly < Mayor
(3) (2) (5) (1)
< Mayst
(4)

38. In the following question, select the odd word pair from the given alternatives.
(a) Crockery - Cup
(b) Rodent - Lizard
(c) Insect - Butterfly
(d) Amphibian - Frog

↘ *(b)* Cup is a crockery. Butterfly is an insect and frog is an amphibian. But lizard is not a rodent.

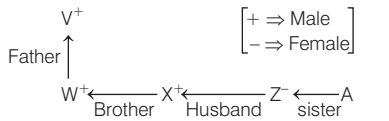
39. In the following question, select the missing number from the given series.
99986, 99996, 100096, 101096, ?
(a) 1110096
(b) 100096
(c) 111096
(d) 110096

↘ *(c)* Pattern of the given series is



40. W is the brother of X. V is the father of W. X is the husband of Z. Z is the sister of A. Who is the father-in-law of Z?
(a) A (b) W
(c) V (d) X

↘ *(c)* According to the given information,



Clearly, V is the father-in-law of Z.

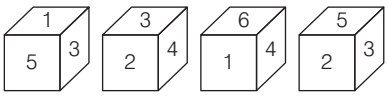
41. In a certain code language, 'BR-EW' is coded as '8', 'CA-LF' is coded as '14'. What is the code for 'DA-WN' in that code language?
(a) 32 (b) 30
(c) 36 (d) 34

↘ *(a)* Here, B R – E W
2 18 5 23
$\Rightarrow \quad (5+23)-(2+18)=8$
C A – L F
3 1 12 6
$\Rightarrow \quad (12+6)-(3+1)=14$
Similarly,
D A – W N
4 1 23 14
$\Rightarrow \quad (23+14)-(4+1)=\boxed{32}$

42. Words given on the left side of (::) are related with each other by some Logic/Rule/ Relation. Select the missing word/word pair on the right side of (::) from the given alternatives based on the same Logic/Rule/ Relation.
Odometer : Distance Travelled by a Vehicle :: Barometer : ?
(a) Temperature
(b) Length
(c) Atmospheric pressure
(d) Distance

↘ *(c)* An odometer is an instrument used to measure the distance travelled by a vehicle. Similarly, a barometer is an instrument used to measure atmospheric pressure.

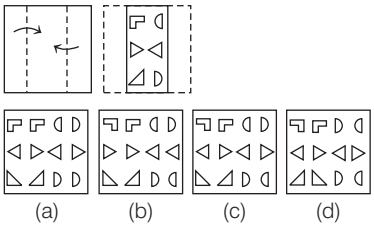
43. Four different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one having '1'.



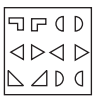
(a) 5 (b) 6
(c) 4 (d) 2

↘ *(d)* From figure 1 and 3,
Adjacent face having 1= 5, 3, 6 and 4
So, opposite to the face having 1 = 2.

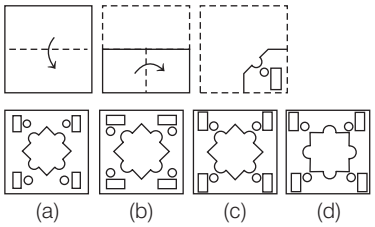
44. A piece of paper is folded and punched as shown below in the question figures, From the given answer figures, Indicate how it will appear when opened?



↘ *(c)* When opened, the paper will appear a shown in option figure (c),



45. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



↘ *(c)* When opened, the paper will appear as shown in figure (c).



46. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.
(**Note** Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13-Operations on 13 such as adding/ subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(17, 12, 10)
(25, 23, 4)
(a) (9, 19, 15) (b) (18, 17, 3)
(c) (31, 27, 8) (d) (28, 42, 12)

↘ *(c)* Here,
$(17, 12, 10) \Rightarrow (17-12)\times 2 = 5\times 2 = 10$
$(25, 23, 4) \Rightarrow (25-23)\times 2 = 2\times 2 = 4$
Similarly,
$(31, 27, 8) \Rightarrow (31-27)\times 2 = 4\times 2 = 8$

47. Select the option that is related to the fourth number in the same way as the first number is related to the second number and the fifth number is related to the sixth number.
123 : 492 :: ? : 312 :: 32 : 128
(a) 98 (b) 78
(c) 48 (d) 68

↘ *(b)* Here,
$123 : 492 \Rightarrow 123\times 4 = 492$
$32 : 128 \Rightarrow 32\times 4 = 128$
So, $? : 312 \Rightarrow ?\times 4 = 312$
$\Rightarrow \quad ? = \frac{312}{4} = 78$

48. In the following question, select the odd letter/ letters from the given alternatives.
(a) KGC (b) ZVR
(c) PLH (d) TPK

↘ *(d)* Here,
$K \xrightarrow{-4} G \xrightarrow{-4} C$
$Z \xrightarrow{-4} V \xrightarrow{-4} R$
$P \xrightarrow{-4} L \xrightarrow{-4} H$
$T \xrightarrow{-4} P \xrightarrow{-5} K$
So, TPK does not follow the pattern –4, – 4.

49. Select the option in which the numbers share the same relationship in set as that shared by the numbers in the given set.
(**Note :** Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13-Operations on 13 such as adding/ subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(32, 39, 46)
(54, 51, 48)
(a) (85, 45, 24)
(b) (48, 30, 12)
(c) (72, 44, 36)
(d) (64, 43, 17)

↘ *(b)* Here,
$(32, 39, 46) \Rightarrow (32 + 46)\div 2 = 39$
$(54, 51, 48) \Rightarrow (54 + 48)\div 2 = 51$
Similarly,
$(48, 30, 12) \Rightarrow (48 + 12)\div 2 = 30$

50. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
DMQ, HUZ, LCI, PKR, ?
(a) TMO
(b) TRA
(c) TSA
(d) TSB

↘ *(c)* The pattern of the given series is,
$D \xrightarrow{+4} H \xrightarrow{+4} L \xrightarrow{+4} P \xrightarrow{+4} T$
$M \xrightarrow{+8} U \xrightarrow{+8} C \xrightarrow{+8} K \xrightarrow{+8} S$
$Q \xrightarrow{+9} Z \xrightarrow{+9} I \xrightarrow{+9} R \xrightarrow{+9} A$

Part 3 Quantitative Aptitude

51. Simple interest and compound interest (Compounding annually) on a principal at a certain rate of interest for 2 yrs is ₹ 1600 and ₹1760 respectively. What is the principal?

(a) ₹ 10000
(b) ₹ 7000
(c) ₹ 6000
(d) ₹ 4000

➘ *(d)* Let, the principal be ₹ P and rate of interest be R% per amount.

$T = 2$ yrs

$$\therefore \quad SI = \frac{P \times R \times T}{100}$$

$$\Rightarrow \quad 1600 = \frac{P \times R \times 2}{100}$$

$$\Rightarrow \quad R = \frac{1600 \times 100}{2P}$$

$$\Rightarrow \quad R = \frac{80000}{P}\%$$

$$\text{Now, } CI = P\left[\left(1 + \frac{R}{100}\right)^T - 1\right]$$

$$\Rightarrow \quad 1760 = P\left[\left(1 + \frac{80000}{100 \times P}\right)^2 - 1\right]$$

$$\Rightarrow \quad \frac{1760}{P} + 1 = \left(1 + \frac{800}{P}\right)^2$$

$$\Rightarrow \quad \frac{1760 + P}{P} = \left(\frac{P + 800}{P}\right)^2$$

$$\Rightarrow 1760 + P = \frac{P^2 + (800)^2 + 2 \times P \times 800}{P}$$

$$\Rightarrow 1760P + P^2 = P^2 + 640000 + 1600P$$

$$\Rightarrow \quad 1760P - 1600P = 640000$$

$$\Rightarrow \quad P = \frac{640000}{160}$$

$$= 4000$$

Hence, principal is ₹ 4000.

52. What is the value of $\dfrac{\cos(50° + A) - \sin(40° - A)}{\cos 40° \sec 40°}$?

(a) 1 (b) 2 (c) 0.5 (d) 0

➘ *(d)* $\dfrac{\cos(50° + A) - \sin(40° - A)}{\cos 40° \sec 40°}$

$$= \frac{\cos(90° - (40° - A)) - \sin(40° - A)}{\cos 40° \sec 40°}$$

$$= \frac{\sin(40° - A) - \sin(40° - A)}{\cos 40° \sec 40°}$$

$$[\because \cos(90 - \theta) = \sin\theta]$$

$$= \frac{0}{\cos 40° \sec 40°} = 0$$

53. What is the value of $(a-b)(b+a)(a^2+b^2)(2b^4+2a^4)$?

(a) $a^4 - b^4$ (b) $a^8 - b^8$
(c) $2(a^8 - b^8)$ (d) $(a^8 - b^8)/2$

➘ *(c)* $(a-b)(b+a)(a^2+b^2)(2b^4+2a^4)$

$$= (a-b)(a+b)(a^2+b^2)(2b^4+2a^4)$$

$$= (a^2 - b^2)(a^2 + b^2)(2b^4 + 2a^4)$$

$$[\because (x-y)(x+y) = x^2 - y^2]$$

$$= ((a^2)^2 - (b^2))^2(2b^4 + 2a^4)$$

$$[\because (x-y)(x+y) = x^2 - y^2]$$

$$= (a^4 - b^4)(2b^4 + 2a^4)$$

$$= 2(a^4 - b^4)(b^4 + a^4)$$

$$= 2(a^4 - b^4)(a^4 + b^4)$$

$$= 2((a^4)^2 - (b^4)^2)$$

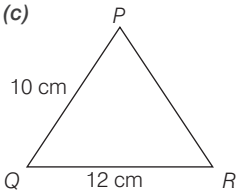
$$[\because (x-y)(x+y) = x^2 - y^2]$$

$$= 2(a^8 - b^8)$$

54. In a $\Delta PQR, PQ = 10$ cm, $QR = 12$ cm and semiperimeter is 17 cm. What is the length of PR?

(a) 15 cm (b) 7 cm
(c) 12 cm (d) 10 cm

➘ *(c)*



Here, $PQ = a = 10$ cm

$QR = b = 12$ cm

and let $PR = c$

$$\text{Semi-perimeter} = \frac{a + b + c}{2}$$

$$\Rightarrow \quad 17 = \frac{10 + 12 + c}{2}$$

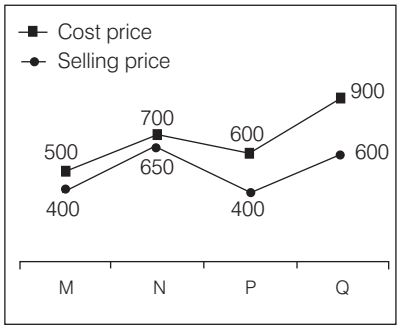
$$\Rightarrow \quad 34 = 22 + c$$

$$\Rightarrow \quad c = 34 - 22$$

$$\Rightarrow \quad c = 12 \text{ cm}$$

Hence, $PR = 12$ cm

55. The line chart given below shows the cost price and selling price of four articles.



What is the ratio of average selling price of M and N to the average cost price of P and Q?

(a) 19 : 29 (b) 10 : 7
(c) 7 : 10 (d) 31 : 18

➘ *(c)* Average selling price of M and N

$$= \frac{400 + 650}{2}$$

$$= \frac{1050}{2} = 525$$

Average cost price of P and Q

$$= \frac{600 + 900}{2}$$

$$= \frac{1500}{2} = 750$$

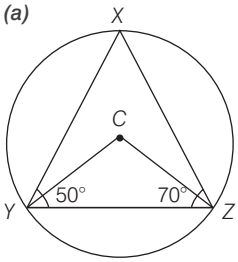
Now, required ratio = 525:750

$$= 21:30 = 7:10$$

56. In a triangle XYZ, C is circumcentre of this triangle. $\angle Y = 50°$ and $\angle Z = 70°$. What is the value of $\angle YCZ$?

(a) 120° (b) 140°
(c) 150° (d) 100°

➘ *(a)*



In ΔXYZ,

$\angle X + \angle Y + \angle Z = 180°$

[Angle sum property of triangle]

$$\Rightarrow \quad \angle X + 50° + 70° = 180°$$

$$\Rightarrow \quad \angle X = 180° - 120°$$

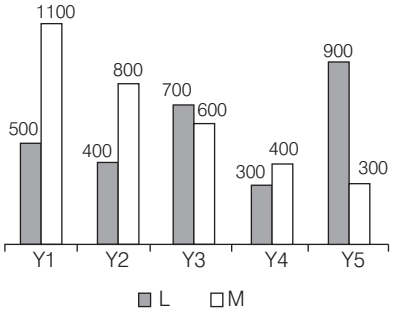
$$\Rightarrow \quad \angle X = 60°$$

Now, $\angle YCZ = 2\angle X$

[∵ The angle subtended by an arc at the centre of the circle is twice the angle subtended by the arc at any point on the remaining part of the circle]

$\Rightarrow \quad \angle YCZ = 2 \times 60° = 120°$

57. The bar graph given below shows the expenditure of two companies L and M in different years.



Which of the following statement is correct?

I. The expenditure of company L in Y2 is 33.33%of the expenditure of M in year Y3.

II. The expenditure of company M in year Y5 is 100% of the expenditure of L in year Y4.

(a) Both I and II (b) Neither I nor II
(c) Only II (d) Only I

➘ *(c)* From Statement I,

Expenditure of company L in Y2 = 400

Expenditure of company M in Y3 = 600

$\therefore$ Required percentage $= \frac{400}{600} \times 100\%$

$= 66.66\%$

Hence, Statement I is incorrect.

From Statement II,

Expenditure of company M in Y5 = 300

Expenditure of company L in Y4 = 300

$\therefore$ Required percentage

$= \frac{300}{300} \times 100\% = 100\%$

Hence, only Statement II is correct.

58. The following table shows the expenditure of a family from the year 2020 to 2022. What is the average amount of expenses on interest on loans in this period of time?

Items	Expenditure (in ₹)		
	Year 2020	Year 2021	Year 2022
Food	98000	76500	70000
Transportation	20000	22000	18000
Fees	100000	115000	120000
Interest on loans	36000	96000	100000

(a) ₹ 94000 (b) ₹ 90000
(c) ₹ 96000 (d) ₹ 100000

➘ *(a)* Average amount of expenses on interest on loans from 2020 to 2022

$= \frac{86000 + 96000 + 100000}{3}$

$= \frac{282000}{3} = ₹ 94000$

59. If $\tan A + \sec A = K$, then what is the value of $\sin A$?

(a) $\frac{2K}{K^2+1}$

(b) $\frac{K^2-1}{2K}$

(c) $\frac{K^2+1}{K^2-1}$

(d) $\frac{K^2-1}{K^2+1}$

➘ *(d)* Given, $\tan A + \sec A = K$ ...(i)

We know, $\sec^2 A - \tan^2 A = 1$

$\Rightarrow$

$(\sec A + \tan A)(\sec A - \tan A) = 1$

$\Rightarrow K(\sec A - \tan A) = 1$

$\Rightarrow \quad \sec A - \tan A = \frac{1}{K}$ ...(ii)

Now, adding Eqs (i) and (ii),

$\tan A + \sec A + \sec A - \tan A$

$= K + \frac{1}{K}$

$\Rightarrow \quad 2\sec A = \frac{K^2+1}{K}$

$\Rightarrow \quad \sec A = \frac{K^2+1}{2K}$

$\Rightarrow \cos A = \frac{2K}{K^2+1}$

$\left[\because \cos A = \frac{1}{\sec A}\right]$

Now, $\sin A = \sqrt{1 - \cos^2 A}$

$[\because \sin^2 A + \cos^2 A = 1]$

$\Rightarrow \quad \sin A = \sqrt{1 - \left(\frac{2K}{K^2+1}\right)^2}$

$\Rightarrow \quad \sin A = \sqrt{\frac{(K^2+1)^2 - (2K)^2}{(K^2+1)^2}}$

$\Rightarrow \quad \sin A = \sqrt{\frac{K^4 + 1 + 2K^2 - 4K^2}{(K^2+1)^2}}$

$[\because (a+b)^2 = a^2 + b^2 + 2ab]$

$\Rightarrow \quad \sin A = \sqrt{\frac{K^4 + 1 - 2K^2}{(K^2+1)^2}}$

$\Rightarrow \quad \sin A = \sqrt{\frac{(K^2-1)^2}{(K^2+1)^2}}$

$[\because a^2 + b^2 - 2ab = (a-b)^2]$

$\Rightarrow \quad \sin A = \sqrt{\left(\frac{K^2-1}{K^2+1}\right)^2}$

Hence, $\sin A = \frac{K^2-1}{K^2+1}$

60. The expenditure and savings of a person are in ratio of 4 : 3. His savings increase by 1/5 of his income and income remains the same. What is the new ratio of his expenditure and savings?

(a) 12 : 17 (b) 14 : 17
(c) 13 : 22 (d) 15 : 13

➘ *(c)* Let, initially expenditure and savings of a person be $4x$ and $3x$ respectively.

$\Rightarrow \quad$ Income $= 4x + 3x = 7x$

Now,

New savings

$= 3x + \frac{1}{5} \times 7x$

$= 3x + \frac{7x}{5} = \frac{22x}{5}$

$\therefore$ New expenditure $= 7x - \frac{22x}{5} = \frac{13x}{5}$

$\therefore$ New ratio of expenditure and savings

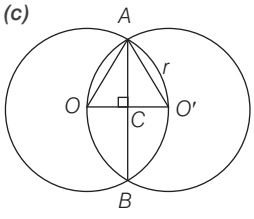
$= \frac{\text{New expenditure}}{\text{New savings}}$

$= \frac{\frac{13x}{5}}{\frac{22x}{5}} = \frac{13}{22} = 13:22$

61. Two circles intersect each other such that each passes through the centre of other. Radius of these circles are equal. If the length of common chord is $14\sqrt{3}$ cm, then what will be the sum of circumferences of these two circles?

(a) 88 cm (b) 352 cm
(c) 176 cm (d) 188 cm

➘ *(c)*



Given, $AB = 14\sqrt{3}$ cm

Let radius of both the circles be 'r' cm.

In ΔOAC,

$\Rightarrow \quad OA = r$ cm

$\Rightarrow \quad AC = \frac{AB}{2} = \frac{14\sqrt{3}}{2}$

$= 7\sqrt{3}$ cm

and, $OC = \frac{r}{2}$ cm

Now, In ΔOAC,

$(OA)^2 = (AC)^2 + (OC)^2$

$\Rightarrow r^2 = (7\sqrt{3})^2 + \left(\frac{r}{2}\right)^2$

$\Rightarrow r^2 - \frac{r^2}{4} = 49 \times 3$

$\Rightarrow \frac{r^2}{4} = 49$

$\Rightarrow r^2 = 49 \times 4$

$\Rightarrow r = 7 \times 2 = 14$ cm

Now, sum of circumference of these two circle $= 2\pi r + 2\pi r$

$= 4 \times \pi \times r$

$= 4 \times \frac{22}{7} \times 14$

$= 176$ cm

62. If $4 \cot A = 5$, then what is the value of $6\sec A \tan A$?

(a) $\frac{20\sqrt{41}}{21}$ (b) $\frac{25\sqrt{41}}{24}$

(c) $\frac{24\sqrt{41}}{25}$ (d) $\frac{3}{2}\sqrt{41}$

↘ *(c)* Given, $4\cot A = 5$

$\Rightarrow \cot A = \frac{5}{4}$

We know, $\cot A = \frac{B}{P} = \frac{5}{4}$

$\Rightarrow B = 5, P = 4$

$\therefore H = \sqrt{P^2 + B^2} = \sqrt{4^2 + 5^2}$

$= \sqrt{16 + 25} = \sqrt{41}$

Now, $6\sec A \tan A = 6 \times \frac{H}{B} \times \frac{P}{B}$

$= 6 \times \frac{\sqrt{41} \times 4}{5 \times 5}$

$= \frac{24\sqrt{41}}{25}$

63. If the ratio of the volumes of two cylinders is 6 : 1 and the ratio of their heights is 1 : 6, then what is the ratio of their radii?

(a) 9 : 1 (b) 3 : 1

(c) 8 : 1 (d) 6 : 1

↘ *(d)* Given, ratio of volumes of two cylinders = 6:1

$\Rightarrow \frac{V_1}{V_2} = \frac{6}{1}$

$\Rightarrow \frac{\pi r_1^2 h_1}{\pi r_2^2 h_2} = \frac{6}{1}$

$\Rightarrow \left(\frac{r_1}{r_2}\right)^2 \times \frac{h_1}{h_2} = \frac{6}{1}$

$\Rightarrow \left(\frac{r_1}{r_2}\right)^2 \times \frac{1}{6} = \frac{6}{1}$

[Given, $h_1 : h_2 = 1:6$]

$\Rightarrow \left(\frac{r_1}{r_2}\right)^2 = \frac{36}{1}$

$\Rightarrow \frac{r_1}{r_2} = \sqrt{\frac{36}{1}} = \frac{6}{1}$

Hence, $r_1 : r_2 = 6:1$

64. Raj alone can complete a work in 20 days and Pratap alone can complete the same work in half of the time taken by Raj. In how many days will both together complete 3/5 part of the total work?

(a) 10 days (b) 4 days

(c) 6 days (d) 8 days

↘ *(b)* Part of work done by Raj alone in 1 day $= \frac{1}{20}$

Part of work done by Pratap alone in 1 day $= \frac{1}{20} \times 2 = \frac{1}{10}$

$\Rightarrow$ Part of work done by Raj and Pratap together in 1 day $= \frac{1}{20} + \frac{1}{10}$

$= \frac{1+2}{20} = \frac{3}{20}$

$\therefore$ Number of days required by Raj and Pratap together to complete the work $= \frac{20}{3}$ days

Hence, number of days required by Raj and Pratap together to complete $\frac{3}{5}$ part of total work $= \frac{20}{3} \times \frac{3}{5}$ days

$= 4$ days

65. A boat can row 36 km upstream in 9 h and the same distance downstream in 3 h. What is the speed of the boat in still water?

(a) 14 km/h (b) 8 km/h

(c) 10 km/h (d) 6 km/h

↘ *(b)* Let, speed of boat in still water be x km/h and speed of stream be y km/h.

According to the question,

$x + y = \frac{36}{9}$

$\Rightarrow x + y = 4$ ...(i)

and $x - y = \frac{36}{3}$

$\Rightarrow x - y = 12$ ...(ii)

Now, adding Eqs. (i) and (ii),

$x + y + x - y = 4 + 12$

$\Rightarrow 2x = 16$

$\Rightarrow x = 8$

Hence, speed of boat in still water is 8 km/h.

66. If $a + b + c = 0$ and $a^2 + b^2 + c^2 = 40$, then what is the value of $4ab + 4bc + 4ca$?

(a) -40 (b) -20

(c) -160 (d) -80

↘ *(d)* Given, $(a + b + c) = 0$

$a^2 + b^2 + c^2 = 40$

We know,

$(a + b + c)^2 = (a^2 + b^2 + c^2) + 2(ab + bc + ca)$

$\Rightarrow (0)^2 = (40) + 2(ab + bc + ca)$

$\Rightarrow \frac{-40}{2} = ab + bc + ca$

$\Rightarrow ab + bc + ca = -20$

Hence,

$4ab + 4bc + 4ca = 4(ab + bc + ca)$

$= 4 \times (-20) = -80$

67. How many terms of the series $-9, -6, -3,$ ..... must be a taken so that the sum of all the terms is 45?

(a) 11 (b) 8

(c) 10 (d) 9

↘ *(c)* Given series, $-9, -6, -3,$.... is an AP.

Here, $a = -9$

$d = -6 - (-9) = -6 + 9 = 3$

Given, $S_n = 45$

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

$\Rightarrow 45 = \frac{n}{2}[2 \times (-9) + (n-1)3]$

$\Rightarrow 90 = n[-18 + 3n - 3]$

$\Rightarrow 90 = -18n + 3n^2 - 3n$

$\Rightarrow 3n^2 - 21n - 90 = 0$

$\Rightarrow n^2 - 7n - 30 = 0$

$\Rightarrow n^2 - 10n + 3n - 30 = 0$

$\Rightarrow n(n-10) + 3(n-10) = 0$

$\Rightarrow (n+3)(n-10) = 0$

$\Rightarrow n = -3, 10$

$\because$ n cannot be negative.

$\therefore n = 10$

Hence, 10 terms of the given series make sum of all the terms 45.

68. What is the sum of first 200 terms of the given series?

$1 + 5 + 6 + 10 + 11 + 15 + 16 + 20 + ...$

(a) 49400

(b) 49600

(c) 50100

(d) 48300

➘ *(c)* Given series,

$1+5+6+10+11+15+16+20+...$

This series is combination of 2 series of 100 and 100 terms.

$\Rightarrow$ $(1+6+11+16+...\text{ 100 terms})$
$+(5+10+15+20+...)$

$\Rightarrow$ $S_1 + S_2$

For series 1,

First term $(a_1) = 1$

Common difference $(d_1) = 6-1 = 5$

$n = 100$

$\Rightarrow$ $S_1 = \frac{n}{2}(2a_1 + (n-1)d_1)$

$\Rightarrow$ $S_1 = \frac{100}{2}(2\times1 + (100-1)\times5)$

$\Rightarrow$ $S_1 = 50(2+495)$

$\Rightarrow$ $S_1 = 24850$

For series 2,

First term $(a_2) = 5$

Common difference $(d_2) = 10-5 = 5$

$n = 100$

$\Rightarrow$ $S_2 = \frac{n}{2}(2a_2 + (n-1)d_2)$

$\Rightarrow$ $S_2 = \frac{100}{2}(2\times5 + (100-1)\times5)$

$\Rightarrow$ $S_2 = 50(10+495)$

$\Rightarrow$ $S_2 = 25250$

Hence, sum of first 200 terms of given series $= S_1 + S_2$
$= 24850 + 25250$
$= 50100$

69. A merchant allows a discount of 20% on marked price. If he wants to earn a profit of 20%, then marked price will be how much percentage more than the cost price?

(a) 50% (b) 40%
(c) 45% (d) 37.5%

➘ *(a)* Let cost price and marked price be ₹x and ₹ y respectively.

Given, discount = 20%

$$SP = \left(\frac{100-20}{100}\right)\times MP$$
$$= ₹\ \frac{80y}{100} = ₹\ \frac{4y}{5}$$

$\Rightarrow$ $y = ₹\ \frac{5SP}{4}$

also given, Profit = 20%

$\Rightarrow$ $SP = \left(\frac{100+20}{100}\right)\times SP$
$= \frac{₹\ 120x}{100} = \frac{₹\ 6x}{5}$

$\Rightarrow$ $x = \frac{₹\ 5\,SP}{6}$

Hence, required percentage
$$= \frac{MP-CP}{CP}\times100\%$$
$$= \frac{y-x}{x}\times100\%$$
$$= \frac{\frac{5SP}{4}-\frac{5SP}{6}}{\frac{5SP}{6}}\times100\%$$
$$= \frac{\frac{30-20}{24}}{\frac{5}{6}}\times100\%$$
$$= \frac{10}{24}\times\frac{6}{5}\times100\% = 50\%$$

70. If the radius of sphere is decreased by 10%, then volume of sphere will be decreased by what percentage?

(a) 32.5% (b) 30.6%
(c) 25.6% (d) 27.1%

➘ *(d)* Let, original radius = r units

$\Rightarrow$ Original volume of sphere
$$= \frac{4}{3}\pi r^3$$

Now, reduced radius
$$= \left(\frac{100-10}{100}\right)\times r \text{ units}$$
$$= \frac{9r}{10}\text{ units}$$

$\Rightarrow$ Reduced volume
$$= \frac{4}{3}\pi\left(\frac{9r}{10}\right)^3 = \frac{4}{3}\times\pi\times\frac{729}{1000}r^3$$

Hence, required percentage
$$= \frac{\frac{4}{3}\pi r^3 - \frac{4}{3}\pi\times\frac{729}{1000}r^3}{\frac{4}{3}\pi r^3}\times100\%$$
$$= \left(1-\frac{729}{1000}\right)\times100\%$$
$$= \frac{271}{1000}\times100\% = 27.1\%$$

71. Vijay sells bananas at the rate of ₹14 per dozen and earns a profit of 40%. The cost price of the bananas increases by 30%. If the selling price remains the same, then what is his new profit percent?

(a) 7.69% (b) 9.09%
(c) 7.14% (d) 8.33%

➘ *(a)* Let, CP of bananas be ₹x per dozen.

Given, SP of bananas = ₹14 per dozen

Also, given profit = 40%

$\Rightarrow$ $\frac{SP-CP}{CP}\times100 = 40$

$\Rightarrow$ $\frac{14-x}{x}\times100 = 40$

$\Rightarrow$ $\frac{14-x}{x} = \frac{2}{5}$

$\Rightarrow$ $70-5x = 2x$

$\Rightarrow$ $7x = 70$

$\Rightarrow$ $x = 10$

$\therefore$ CP of bananas = ₹10 per dozen.

Now,

New CP of bananas
$$= ₹\left(\frac{100+30}{100}\right)\times10 \text{ per dozen}$$
$$= ₹\ \frac{130}{100}\times10 \text{ per dozen}$$
$$= ₹\ 13 \text{ per dozen}$$

Hence, new profit percent
$$= \frac{SP-\text{New CP}}{\text{New CP}}\times100\%$$
$$= \frac{14-13}{13}\times100\%$$
$$= \frac{100}{13}\% = 7.69\%$$

72. Average of the height of 286 students of a school is 50 unit. If the average of the height of the boys is 53 unit and the average of the height of the girls is 31 unit, then what will be the ratio of the total height of boys and the total height of girls respectively?

(a) 1004 : 91 (b) 530 : 31
(c) 1007 : 93 (d) 1111 : 62

➘ *(c)* Given, average of height of 286 students = 50 unit

$\Rightarrow$ Total sum of height of 286 students $= 286\times50$ units
$= 14300$ units

Let, the number of boys be x.

$\Rightarrow$ Number of girls $= (286-x)$

$\Rightarrow$ Total sum of height of x boys
$= x\times53$ units $= 53x$ units

$\Rightarrow$ Total sum of height of $(286-x)$ girls
$= (286-x)\times31$ units
$= 8866 - 31x$ units

Now,

Total sum of height of 286 students = Total sum of height of x boys + Total sum of height of $(286-x)$ girls.

$\Rightarrow$ $14300 = 53x + 8866 - 31x$

$\Rightarrow$ $14300 - 8866 = 22x$

$\Rightarrow$ $x = \frac{5434}{22} = 247$

Number of boys = 247

Number of girls = $286-247 = 39$

Hence, required ratio $= \frac{53x}{(286-x)\times 31}$

$= \frac{53\times 247}{39\times 31}$

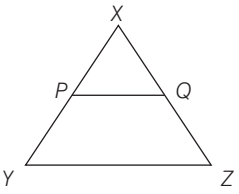
$= \frac{1007}{93}$

$= 1007:93$

73. In ΔXYZ, P and Q are the points on sides XY and XZ respectively. PQ is parallel to YZ and $PQ : YZ = 3 : 8$. If $XY = 88$ cm, then what is the length of XP?

(a) 24 cm (b) 21 cm
(c) 33 cm (d) 28 cm

↘ *(c)*



Given, $PQ \| YZ$

and $PQ : YZ = 3:8$, $XY = 88$ cm

$\because$ $PQ \| YZ$

$\Rightarrow$ $\Delta XPQ \sim \Delta XYZ$

$\Rightarrow$ $\frac{XY}{XP} = \frac{YZ}{PQ} \Rightarrow \frac{88}{XP} = \frac{8}{3}$

($\because$ Given, $PQ : YZ = 3 : 8$)

$\therefore$ $XP = \frac{88\times 3}{8} = 33$ cm

74. If $x = 7$ and $y = 2$ then, what is the value of $\frac{x^3-y^3}{x^2-y^2} - \frac{3xy}{x+y}$?

(a) 28/9 (b) 21/10
(c) 25/9 (d) 26/9

↘ *(c)* $\frac{x^3-y^3}{x^2-y^2} - \frac{3xy}{x+y}$

$= \frac{x^3-y^3-3xy(x-y)}{x^2-y^2}$

$[\because x^2-y^2 = (x-y)(x+y)]$

$= \frac{x^3-y^3-3x^2y+3xy^2}{x^2-y^2}$

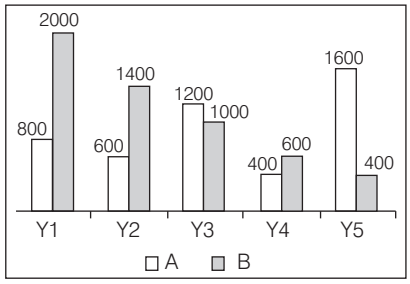
$= \frac{(x-y)^3}{x^2-y^2}$

$[\because (x-y)^3 = x^3-y^3-3x^2y+3xy^2]$

$= \frac{(7-2)^3}{7^2-2^2} = \frac{125}{49-4}$

$= \frac{125}{45} = \frac{25}{9}$

75. The bar graph given below shows the expenditure of two companies A and B in different years.



T1 = The average expenditure of company A and B in year Y1.

T2 = The average expenditure of company A and B in year Y5.

What is the value of (T1 – T2)?

(a) 200 (b) 600
(c) 400 (d) 500

↘ *(c)* $T1 = \frac{800+2000}{2} = \frac{2800}{2} = 1400$

$T2 = \frac{1600+400}{2}$

$= \frac{2000}{2} = 1000$

Hence, (T1 – T2) = 1400 – 1000 = 400

Part 4 General Awareness

76. The Union Ministry of Home Affairs in 2022 banned the Popular Front of India (PFI) and its associates for ..... years.

(a) five (b) four
(c) seven (d) two

↘ *(a)* The Union Ministry of Home Affair in 2022 banned the Popular Front of India (PFI) and its associates for five years. The reason for banning PFI was the links of it with terrorist groups and subversive activities.

77. Which of the following do/does not come under Union list of Seventh Schedule of the Indian Constitution?

(a) Intoxicating liquors
(b) Post and telegraphs
(c) Audit of the accounts of the states
(d) Banking

↘ *(a)* The prohibition of the consumption of intoxicating liquors comes under the Directive Principles of State Policy written in the Article 47 of Indian Constitution. Seventh Schedule of the Constitution specifices allocation power and functions between Union and the State Legislature.

78. Which of the following indicates the correct limit of Marginal Propensity to Consume (MPC)?

(a) $0 < MPC < 1$
(b) $0 < MPC < \infty$
(c) $-1 < MPC < 1$
(d) $-1 < MPC < 0$

↘ *(a)* Marginal Propensity to Consume (MPC) measures the proportionate rise in the consumption with the increase in income. The value of MPC varies between O and I generally. $O < MPC < I$ indicates the correct limit of MPC.

79. Which of the following constellation is also called the hunter?

(a) Cassiopeia
(b) Leo Major
(c) Ursa Major
(d) Orion

↘ *(d)* Orion is a major constellation lying at about 5 hours 30 minutes right ascension and 0° declination. It is named after the Greek mythological hunter.

80. Kathak is the principal dance of which part of India?

(a) Northern India
(b) Eastern India
(c) North-Eastern India
(d) Southern India

↘ *(a)* Kathak is the principal dance of Northern part of India. It originated in the state of Uttar Pradesh. During the Mughal period. Kathak form of dance was given utmost importance. The Cultural Ministry of India suggests 9 types of classical dance forms.

81. Mohiniyattam belongs to ..... in India, takes its name from the celestial enchantress Mohini.

(a) Kerala
(b) Madhya Pradesh
(c) Maharashtra
(d) Odisha

↘ *(a)* Mohiniyattam is a form of Indian classical dance which originated and popularised in the state of Kerala. The term 'Mohiniyattam' derived from 'Mohini' a famous female avatar of the Hindu God-Vishnu.

82. Which of the following is an exogenic force?
(a) Landslides (b) Wind
(c) Volcano (d) Earthquake

↘ *(b)* Exogenic forces are forces that operate and act on the surface of the Earth. Examples of exogenic forces are winds, rives, glaciers etc.

83. Which of the following is not correct regarding the Pacific Ocean?
(a) The Pacific Ocean is perfectly oval in shape.
(b) Asia, Australia, North and South Americas suround it.
(c) Mariana Trench, the deepest part of the earth, lies in the Pacific Ocean.
(d) The Pacific Ocean is the largest ocean.

↘ *(a)* The pacific Ocean is almost triangular in shape with its peak North of the Bering Strait. The Ocean is the largest and deepest part of the world's oceans. It stretches from Arctic Ocean to the South Seas and is bordered by continents in Asia and Australia in the West and Americas in the East.

84. Jabalpur is located on the banks of which of the following rivers?
(a) Ganga (b) Godavari
(c) Chambal (d) Narmada

↘ *(d)* Jabalpur city is located on the banks of River Narmada in Madhya Pradesh. Jabalpur is the judical and cultural capital of Madhya Pradesh. The city is known for the marble rocks on the River Narmada at Bhedaghat.

85. Who received the Vyas Samman for the novel 'Patliputra Ki Samragi'?
(a) Surendra Verma
(b) Prof. Sharad Pagare
(c) Vishwanath Tripathi
(d) Dr. Sunita Jain

↘ *(b)* 'Pataliputra Ki Samragi' is a novel written by Prof. Sharad Pagare. This novel won the famous Vyas Samman Award. The aim of this novel is to bring alive the contemporary life by balancing out the imaginary reality of literature.

86. ..... won the (FIBA) Women's Basketball World Cup 2022.
(a) United states of America
(b) India
(c) Japan
(d) China

↘ *(a)* FIBA Women's Basketball World Cup 2022 was held in Sydney, Australia.

The winner of Women's Basketball World Cup 2022 was United States of America.

The full form of FIBA is Federation International of Basketball Amateur, the world 'Amateur' was dropped in 1989 and is now recognised as standing for International Basketball Federation.

87. Which of the following shortcut keys is used to move the cursor one word to the left in MS-Word 365?
(a) Ctrl + PageUp
(b) Ctrl + Left arrow key
(c) Shift + Left arrow key
(d) Shift + PageUp

↘ *(b)* In the MS-Word 365, there are many shortcut keys, one of them is Ctrl + Left arrow key. Ctrl + Left arrow key is used to move the cursor one word to the left. Microsoft Word (MS-Word) is a word processing program that allows for the creation of both simple and complex documents.

88. Which of the following is a rare species as per International Union for Conservation of Nature (IUCN)?
(a) Lion tailed macaque
(b) Asiatic buffalo
(c) Gangetic dolphin
(d) Blue sheep

↘ *(b)* As per the International Union for Conservation of Nature (IUCN) Asiatic Buffalo, with less than 4000 of population, is a rare species native to the Indian subcontinent. IUCN works in the field of nature conservation and sustainable use of natural resources.

89. Which of the following was the capital of Pandyas?
(a) Kaveripattinam (b) Madurai
(c) Aihole (d) Puhar

↘ *(b)* The foundation for the Pandya Supremacy in South India was laid by Maravarman Sundara I early in 13th century. The Pandya empire included the regions of present-day South India and Northern Sri Lanka with capital at Madurai.

90. Which of the following is not an asexual form of reproduction in plants?
(a) Spore formation
(b) Vegetative propagation
(c) Budding
(d) Pollination

↘ *(d)* Pollination is the act of transferring pollen grains from the make another to the female stigma. The goal of every living organism, including plants, is to create offspring for the next generation.

91. What is the colour of the outer zone of completion combustion of a candle flame?
(a) Blue
(b) Yellow
(c) Black
(d) Orange

↘ *(a)* The outer zone of a candle flame is blue in colour. It is where the complete combustion takes place.

92. According to the law of demand, the consumer's demand for a good must be ..... .
(a) directly related to the supply of the good
(b) inversely related to the price of the good
(c) directly related to the price of the good
(d) inversely related to the supply of the good

↘ *(b)* The law of demand states that whenever the price of a commodity goes higher, other factors being constant, the quantity demanded will go lower. Thus the law of demand suggest the demand for good is inversely related to the price of good.

93. Which of the following teams did not qualify for the playoffs of the 15th edition of Indian Premier League?
(a) Rajasthan Royals
(b) Mumbai Indians
(c) Royal Challengers Bangalore
(d) Gujarat Titans

↘ *(b)* In the 15th edition of Indian Premier League, Mumbai Indians got the lowest points, that is 8. Playoff in IPL means extra game between teams who have both the same points. Thus the Mumbai Indians in the given option couldn't play playoffs match.

94. How many total medals did Haryana win in the fourth edition of Khelo India Youth Games?
(a) 123 (b) 101
(c) 137 (d) 115

↘ *(c)* In the fourth edition of Khelo India Youth Games, Haryana became the winner state with 52 golds, 39 silvers and 46 bronzes. Haryana's total medal tally stands at 137. Khelo India Youth Games fourth edition held in various states but Panchkula was the host city.

95. The first cotton textile mill in Ahmedabad was started in which year?
(a) 1854 (b) 1861
(c) 1851 (d) 1867

↘ *(b)* The cotton textile mill in Ahmedabad was first started in the year 1861 with 63 workers. The first cotton mill in India was started in Maharashtra in the year 1854. Textile Mills were first invented in England by Richard Arkwright.

96. What is the full form of URL?
(a) Uniform Resource Locator
(b) Union Resource Language
(c) Union Resource Locator
(d) Uniform Resource Language

↘ *(a)* Uniform Resource Locator (URL) is the address of a world with webpage. The World Wide Web is an information system erasing documents and other web resources to be accesses over the internet. A URL (Uniform Resource Locator) is the fundamental network identification for any resource on world wide page.

97. Who is the implementing agency of 'Ayushman Bharat Digital Mission (ABDM)'?
(a) IMA (b) NHA
(c) AIIMS (d) NITI Aayog

↘ *(b)* National Health Authority (NHA) is the apex body responsible for implementing the Ayushman Bharat Digital Mission.
Under this mission, every citizen gets a digital health ID and health records. National Health Authority was founded in 2018 to implement PM-JAY at the national level.

98. 'Skilling of girls in Non-Traditional Livelihood (NTL), has been included in which flagship scheme?
(a) Rashtriya Mahila Kosh
(b) POSHAN Abhiyaan
(c) Beti Bachao Beti Padhao
(d) Pradhan Mantri Matru Vandana Yojana

↘ *(c)* The Skilling of girls in 'Non-Traditional Livelihood' has been included in the 'Beti Bachao Beti Padhao Scheme', this scheme was launched in the year 2015. It mainly targets the clusters in Uttar Pradesh, Haryana, Uttarakhand, Punjab, Bihar and Delhi.

99. Provisions as to disqualification on ground of defection are mentioned under which schedule of the Indian Constitution?
(a) 12th Schedule (b) 11th Schedule
(c) 10th Schedule (d) 9th Schedule

↘ *(c)* In 1985, The 10th Schedule of 52nd Amendment to the Constitution of India was passed by the Parliament of India. It has the provisions for disqualification on ground of defection, also known as Anti-defection law. The main purpose is to curb political corruption.

100. Who has been elected as a new Prime Minister of Pakistan in April 2022?
(a) Nawaz Sharif
(b) Abbas Sharif
(c) Imran Khan
(d) Shehbaz Sharif

↘ *(d)* Imran Khan, the ex-PM of Pakistan was removed from office through a non-confidence motion in April 2022. Shehbaz Sharif became the next Prime Minister of Pakistan, he belongs to the political party, Pakistan Muslim League. He is the 23rd Prime Minister of Pakistan.

SSC CHSL (Tier-I)

Solved Paper

Exam Held on **March 09, 2023** (Shift-4)

Instructions

1. This paper contains 100 questions. Each question carries 2 mark.
2. This paper has 4 Part, Part 1 General English, Part 2 Reasoning Ability, Part 3 Quantitative Aptitude and Part 4 General Awareness.

Part 1 General English

1. Choose the word that is opposite in meaning to the given word.
Knack
(a) Vile (b) Lesson
(c) Process (d) Inability

↘ *(d)* The word 'Knack' means a natural skill or ability. So, 'Inability' from the given options is opposite in meaning to 'Knack'.

2. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.
The medieval knight <u>was knew</u> for his horsemanship.
(a) was known (b) were known
(c) was knows (d) No improvement

↘ *(a)* 'was known' should be used in place of 'was knew' to improve the underlined part of the sentence.

3. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.
He sharpened his pencil, but the <u>lead broken</u> as soon as he started writing.
(a) led break
(b) lead breaking
(c) lead broke
(d) No improvement

↘ *(c)* 'Lead broke' should be used in place of 'lead broken' to improve the underlined part in the sentence as the sentence is in past tense.

4. Fill in the blank with an appropriate option.
The US has military ..... in many Middle Eastern countries.
(a) townies
(b) forces
(c) denizens
(d) personal

↘ *(b)* 'Forces' refers to a group of people who have been trained to do military work for a government. So, it is most appropriate to fill the blank in the given sentence.

5. Select the correct indirect form of the given sentence.
He said, "I will never hurt you."
(a) He said he should never hurt me.
(b) He said that he will never hurt me.
(c) He says that he will never hurt me.
(d) He said that he would never hurt me.

↘ *(d)* 'He said that he would never hurt me.' is the correct indirect form of the given sentence.

6. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
Plastic debris in the ocean can become coated with algae and other marine microbes that produces a chemical scent.
(a) No error
(b) marine microbes that produces a chemical scent.
(c) coated with algae and other
(d) Plastic debris in the ocean can become

↘ *(b)* The part (b) of the given sentence has an error in it. 'marine microbes that produce a chemical scent' should replace part (b) of the sentence as the subject of the sentence is plural 'algae and other microbes', so a plural verb 'produce' is used with it.

7. Find the part of the given sentence that has an error in it. If there is no error, choose 'No error'.
No doubt, human minds are good on predicting the worst.
(a) No doubt, human minds
(b) are good on
(c) predicting the worst.
(d) No error

↘ *(b)* The part (b) of the given sentence has an error of preposition in it. The preposition 'at' is used with 'good'. So, 'are good at' should replace part (b) of the sentence to make it grammatically correct.

8. Fill in the blank with an appropriate option.
Wash, rinse and drain water from quinoa and ..... .
(a) set off (b) set aside
(c) set in (d) set upon

↘ *(b)* The phrasal verb 'set aside' means to keep or save something from a larger amount or supply in order to use it later for a particular purpose. So, 'set aside' is appropriate to fill in the blank.

9. Choose the sentence with no spelling error.
(a) I take this issue vary seriusly.
(b) I take this issue very serisly.
(c) I take this issue very seriously.
(d) I take this isue very seriously.

↘ *(c)* The sentence given in option (c) does not contain any spelling error in it.

10. Select the correct passive form of the given sentence.
The maid washes the windows every week.
(a) The windows were washed every week by the maid.
(b) The windows are washed every week by the maid.
(c) The windows was washed every week by the maid.
(d) The windows are wash every week by the maid.

↘ *(b)* 'The windows are washed every week by the maid.' is the correct passive form of the given sentence.

11. Choose the word that is opposite in meaning to the given word.
Anomalous
(a) Outlandish (b) Customary
(c) Endemic (d) Alien

↘ *(b)* The word 'Anomalous' means unusual or unexpected. So, 'Customary' from the given options is opposite in meaning to 'Anomalous' as it means usual in a particular society or situation.

12. Rearrange the parts of the sentence in correct order.
P. plastics, and not available in sufficient quantities in India
Q. rather one for specific, targeted applications as a majority of
R. compostable plastics are more expensive than conventional
S. compostable plastic packaging is not a blanket solution, but
(a) RPQS (b) SRPQ
(c) PQRS (d) SQRP

↘ *(d)* The correct order to form a meaningful sentence is SQRP.

13. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
To shake in one's shoes
(a) To be afraid
(b) An unpleasant scenario
(c) To leave no remark
(d) To fail to understand

↘ *(a)* The idiom 'To shake in one's shoes' means to be afraid of something.

14. Improve the underlined part of the sentence. Choose 'No improvement' as an answer if the sentence is grammatically correct.
The Blue House is <u>practising it's</u> songs for the competition.
(a) practised it's
(b) practise its
(c) No improvement
(d) practising its

↘ *(d)* 'practising its' should be used in place of 'practising it's' to improve the underlined part of the given sentence.

15. In the following question, out of the given four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
A fish out of water
(a) A person out of accustomed environment
(b) To kill somebody
(c) To criticise someone
(d) A dead person

↘ *(a)* The idiom 'A fish out of water' means to feel uncomfortable because you do not belong in a place or situation.

16. Choose the word that is opposite in meaning to the given word.
Nadir
(a) Bottom (b) Base
(c) Docile (d) Climax

↘ *(d)* The word 'Nadir' means the time when a situation is at its worst. Hence, 'Climax' is opposite in meaning to 'Nadir' as it means the greatest point or level of activity.

17. Choose the word that means the same as the given word.
Ridicule
(a) Pathology
(b) Derision
(c) Resolute
(d) Derivation

↘ *(b)* 'Ridicule' means unkind laughter or remarks that are intended to make someone or something seem stupid. So, 'Derision' meaning the situation in which someone or something is laughed at and considered stupid or of no value is its synonym.

18. Some parts of one or more sentences have been jumbled up, and labelled A, B, C and D. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.
Nurses, unlike physicians, have
A. been slow to adopt these technologies
B. and the reasons for this may relate to the status
C. of both these professions
D. within the hospital setting
(a) DBAC
(b) ABCD
(c) CDBA
(d) BCDA

↘ *(b)* The correct order to form a meaningful sentence is ABCD.

19. Select the option that will improve the (bracketed) part of the sentence. In case of no improvement select the option 'No improvement'.
When you ride a horse, (you sat on it and control it's) movements.
(a) you seated on it and control it's
(b) you sit on it and afterwards control it's
(c) you sit on it and control its
(d) No improvement

↘ *(c)* 'you sit on it and control its' should replace the bracketed part of the sentence to improve it.

20. Choose the incorrectly spelt word.
(a) Agravate
(b) Cramp
(c) Stamp
(d) Damp

↘ *(a)* The word given in option (a) is incorrectly spelt. Its correct spelling is 'Aggravate'.

Directions (Q. Nos. 21-25) *In the following passage some of the words have been deleted. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.*

I have always been bad at journaling. All my childhood diaries include major gaps: In one (1) ..... . I am 8, visiting my aunt. In the very (2) ..... , I have experienced puberty and have a crush on Mohit, the kid (3) ..... , sits behind me in biology. Today, my journal and I are something like estranged acquaintances, who check in every now and then just to keep in (4) ..... , without really understanding why. Yep, we say to each other in passing, everything's good. Hope all is (5) ..... with you!

21. Select the most appropriate option to fill in blank number 1.
(a) entry (b) section
(c) passing (d) terms

↘ ***(a)*** 'Entry' is most appropriate to fill the blank number 1.

22. Select the most appropriate option to fill in blank number 2.
(a) over (b) earlier
(c) next (d) former

↘ ***(c)*** 'next' is most appropriate to fill in the blank number 2.

23. Select the most appropriate option to fill in blank number 3.
(a) who
(b) whom
(c) which
(d) whose

↘ ***(a)*** 'who' is most appropriate to fill in the blank number 3 that which person you are talking about.

24. Select the most appropriate option to fill in blank number 4.
(a) touch
(b) vision
(c) taste
(d) glory

↘ ***(a)*** 'touch' is most appropriate to fill in the blank number 4.

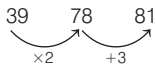
25. Select the most appropriate option to fill in blank number 5.
(a) mild
(b) virtuous
(c) bling
(d) well

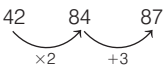
↘ ***(d)*** 'well' is most appropriate to fill in blank number 5.

Part 2 Reasoning Ability

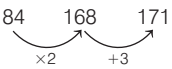
26. Select the option in which the numbers share the same relationship in set as that shared by the numbers in the given sets.
(**Note** Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding /subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(39, 78, 81)
(42, 84, 87)
(a) (21, 42, 49)
(b) (60, 120, 124)
(c) (84, 168, 171)
(d) (43, 86, 95)

↘ ***(c)*** Given, (39, 78, 81)





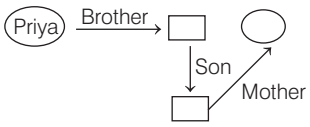
Same as,



All the options doesn't follow the same rule, so [84, 168, 171].

27. Pointing towards a photo of a lady, Priya said, "She is my brother's only son's mother". How is that lady related to Priya?
(a) Sister
(b) Daughter-in-law
(c) Brother's wife
(d) Mother

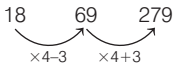
↘ ***(c)***

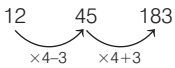


Hence, she is Priya's brother's wife.

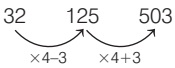
28. Select the option in which the numbers shares the same relationship in set as that shared by the numbers in the given set.
(**Note** Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding /subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
(18, 69, 279)
(12, 45, 183)
(a) (14, 39, 159) (b) (16, 67, 265)
(c) (32, 125, 503) (d) (22, 85, 345)

↘ ***(c)*** Given, (18, 69, 279)





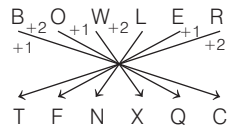
Same as,



So it is different and same as the, given pattern.

29. In a certain code language, 'BOWLER' is coded as 'TFNXQC'. What is the code for 'BOWMAN' in that code language?
(a) PBOXQC (b) PBOXCQ
(c) PBXOOB (d) PBOXCC

↘ ***(a)*** Given,



Same as,

