General Knowledge Sample Paper - 13

SECTION-III : GENERAL TEST

- 1. Which was the first National News Agency of free India?
 - (a) The Indian Review
 - (b) The Free Press of India
 - (c) The Associated Press of India
 - (d) None of these
- 2. Kundankulam Project is located in which state?
 - (a) Karnataka
 - (b) Tamil Nadu
 - (c) Telangana
 - (d) Kerala
- 3. The book 'Gokhale, My Political Guru' was written by:
 - (a) M.A. Jinnah
 - (b) M.K. Gandhi
 - (c) Shaukat Ali
 - (d) C.R. Das
- 4. The largest proven oil reserve of the world lies in:
 - (a) Venezuela
 - (b) Saudi Arabia
 - (c) Iran
 - (d) Iraq
- 5. National Science Day is observed on:
 - (a) 5th January
 - (b) 28th February
 - (c) 14th March
 - (d) 2nd June
- 6. Presence of excess fluorine in water causes:
 - (a) Fluorosis
 - (b) Dental Cavity
 - (c) Tooth Decay
 - (d) Respiratory disease
- 7. Which of the following are used to prepare the main storage (starch) form of food in plants?
 - (a) Carbon dioxide and oxygen
 - (b) Water and oxygen
 - (c) Carbon dioxide and nitrogen
 - (d) Carbon dioxide and water

- 8. The chemical name of quick lime is:
 - (a) Calcium hydroxide
 - (b) Calcium oxide
 - (c) Calcium chloride
 - (d) Calcium carbonate
- 9. Which of the following units is used to measure the speed of a computer? (b) MIPS
 - (a) SYPS
 - (c) BAUD (d) Byte
- 10. A bag is dropped from an aeroplane flying horizontally at a consant speed. Neglecting air resi stance, where will the aeroplane be when the bag reaches the ground?
 - (a) Directly above the bag
 - (b) Ahead of the bag
 - (c) Behind the bag
 - (d) Data is not sufficient
- 11. When the velocity of a body is doubled:
 - (a) Its K.E. is doubled
 - (b) Its P.E. is doubled
 - (c) Its momentum is doubled
 - (d) Its acceleration is doubled
- 12. Among the following quantities which one has dimensions different from the remaining three?
 - (a) Energy per unit volume
 - (b) Force per unit area
 - (c) Product of voltage and charge per unit volume
 - (d) Angular momentum per unit mass
- 13. Kala-azar is transmitted by:
 - (a) Sand fly (b) Tsetse fly
 - (c) Black flies (d) Mites
- 14. Which blood vessels carry pure blood from the lungs to the heart?
- (a) Pulmonary arteries
- (b) Pulmonary veins
- (c) Cardiac artery
- (d) Cardiac vein

- 15. The original name of 'Mahabharata' is:
 - (a) Kathasaritsagar
 - (b) Jai Samhita
 - (c) Rajtarangini
 - (d) Bharat Katha
- 16. An indirect instrument of monetary policy is:
 - (a) Bank rate
 - (b) Cash reserve ratio
 - (c) Open market operations
 - (d) Statutory liquidity ratio
- 17. One of the following is NOT a component of foreign exchange reserves in India:
 - (a) Foreign exchange assets of RBI
 - (b) Foreign exchange assets of government
 - (c) Gold stock of RBI
 - (d) SDR holding of government
- 18. Bodo and Dogri were added in the 8th Schedule by the following amendment:
 - (a) 81st Amendment
 - (b) 85th Amendment
 - (c) 91st Amendment
 - (d) 92nd Amendment
- 19. Which among the following inscription is known as Prayaga Prashasti?
 - (a) Mehrauli Inscription
 - (b) Allahabad Pillar Inscription
 - (c) Hathigumpha Inscription
 - (d) Aihole Inscription
- 20. Which of the following pairs is NOT correctly matched?
 - (a) Marco Polo Italy
 - (b) Alberuni Uzbekistan
 - (c) Ibn Batuta Morocco
 - (d) Nikitin Samarkand

(b) Land revenue

- 21. Which among the following is related to Sadr-us-Sadr?
 - (a) Military administration

	(c)	(c) Ecclesiastical matters			
22	(u) Th	Judicial administration			
22.	The	he book 'Problem of Human			
	Geo	Geography' was written by:			
	(a)	Albert Dema	ange	on	
	(b)	De Mortonn	e		
	(c)	2) Jean Brunches			
(d) None of these					
23. Philadelphia is famous for:			ıs for:		
	(a)	Shipbuilding			
	(b)	Silk textiles			
	(c)	Locomotives			
	(d)	Dairy indust	rv		
24	The	e island of Honshu in Ianan is			
21.	fam	amous for.			
	(a)	Coal	(h)	Iron ore	
	(\mathbf{u})	Oil	(d)	Diamonds	
25	(U)	oming on	(u)	pitas model?	
23.	m	proposed by	ortui	intes model	
	was		•		
	(a)	E. S. Lee			
	(b)	S. A. Stourie	er		
	(c)	Revenstein			
	(d)	Davis			
Dire	ection	ns (Q. 26-29):		Choose the	
relat	ed w	vord/letters/nu	ımbe	er from the	
give	n alt	ernatives.			
26. 3	Seisi	nology : Ear	rthqu	iake ::	
]	Hydı	rology : ?			
((a) (Child	(b)	Water	
((c) N	Medicine	(d)	Disease	
27.]	DR :	SE : : NC : ?			
((a) H	PF	(b)	DO	
((c) (DD	(d)	PE	
28.]	KD :	PW : : RN :	?		
((a) I	М	(b)	MI	
((c) V	WМ	(d)	ME.	
29. 3	37 :	10 : : 65 : ?			
((a) 1	1	(b)	15	
((c) 1	6	(d)	14	
Dire	ction	ns (Q. 30-32):	Ch	oose the odd	
wore	d/let	ters/number p	air f	rom the	
give	n alt	ernatives.			
30. ((a) I	PR	(b)	LN	
((c) Y	YW	(d)	AC	
31. ((a) 2	235	(b)	678	
((c) 3	347	(d)	268	
32. ((a) 4	18	(b)	180	
((c) 1	8	(d)	150	
Dire	ection	ns (Q. 33-35):	As	series is given	
with	one	term missing	. Ch	loose the	

that will complete the series.						
33.	JI, LK, N	M, ?				
	(a) ST		(b)	OP		
	(c) QR		(d)	PO		
34.	Gw, Jt, N	√ p, ?				
	(a) SK		(b)	Sk		
	(c) Rk		(d)	RI		
35.	17, 27, 4	2, 62, ?				
	(a) 82		(b)	87		
	(c) 81		(d)	84		
36.	If 14th S	eptembe	r of a	a year is a		
	Tuesday.	then wh	nich o	lay of the week		
	will 17th	October	r of t	he same year		
	be?					
	(a) Thur	sday	(b)	Saturday		
	(c) Sund	ay	(d)	Monday		
37.	Arrange	the give	given word in the			
	sequence	in whic	h the	they occur in the		
	dictionar	у.				
	(i) Here	edity	(ii)	Hesitate		
	(iii) Heav	vy	(iv)	Herald		
	(a) iii, iv	, i, ii	(b)	i, iv, iii, iv		
	(c) ii, iii	, i, iv	(d)	iv, iii, ii, i		
38.	In a certa	ain codeo	d lang	guage,		
	"MASTA	AER" is	s wi	ritten as		
	"RETSA	М". Но	w is	"LITERACY"		
	written in	n that co	ded 1	anguage?		
	(a) ETIC	CRACY	(b)	YCARETIL		
	(c) YAR	CETIC	(d)	ETICYACR		
39.	In the fol	llowing	quest	ion, select the		
	missing l	etter fro	m the	e given series.		
		R X	2	7		
		D V	·	4		
		N P	E	-		
		IN D	Г			
	(a) Q		(b)	R		
	(c) S		(d)	Т		
40.	If "A" de	enotes "a	idded	l to", "B"		
	denotes "divided by", "C" denotes					
	"multiplied by" and "D" denotes					
	"subtract	ed from	, the	en		
	/6 B 19 0	C/A3	D 25	= ?		
	(a) 4		(D)	3		
41	(C) \Im	llowing	(a)	0		
41.	set of letters when sequentially					
	placed at the gans in the given letter					
	series shall complete it?					
	M N M	MR R	N			
	(a) RMR	<u></u> RMN	(b)	RRNNM		
	(c) RNR	NM	(d)	MMRRN		

correct alternative from the given ones

- 42. Starting from his house, Manish moves 25 km towards south-east then turns to the west and covers another 7 km. How far (in kilometres) is he now from his house?
 - (a) 21 (b) 23
 - (c) 24 (d) 26
- 43. Anjali's brother Shyam is grandfather of Rajendra's son. How is Shyam related to Rajendra?(a) Brother
 - (b) Son
 - (c) Father
 - (d) Maternal Uncle
- 44. Identify the diagram that best represents the ralationship among the given classes. Husband, Wife, Son



45. If a mirror is placed on line MN, then which of the answer figures is the right image of the given figure? Question figure:



46. A piece of paper is folded and punched as shown below in the question figure. From th given answer figures, indicate how it will appear when unfolded. Question figure:



Answer figures:



47. In the following question are given some statements followed by some conclusions. Taking the given statements to be true, even if they seem to be at variance from the commonly known facts, read all the conclusions and then decide which of the given conclusions logically follows the given statements. Statements:

All cups are vegetables.

All vegetables are pens. Conclusion:

- I. Some pens are vegetables.
- II. Some pens are cups.
- (a) Only conclusion (I) follows.
- (b) Only conclusion (II) follows.
- (c) Both the conclusions follow.
- (d) Neither conclusion (I) nor conclusion (II) follows.
- 48. Which answer figure will complete the pattern in the question figure? Question figure:



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



50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column; for example, 'F' can be represented by 32, 42, etc. and 'M' can be represented by 88, 68, etc. Similarly, you have to identify the set for the word 'SNOW'.

 Matrix-I

 0
 1
 2
 3
 4

 0
 1
 N
 U
 H
 E

 1
 U
 I
 N
 L
 L

 2
 W
 G
 I
 N
 E

 3
 W
 W
 F
 I
 U

 4
 W
 W
 F
 N
 F

Matrix-II					
	5	6	7	8	9
5	Ι	S	D	R	0
6	5 O I	Ι	Ι	М	S
7	0	S	G	Ι	0
8	D	М	Т	М	Ι
9	S	D	D	М	S

- (a) 76, 43, 59, 21
- (b) 95, 23, 79, 10
- (c) 99, 01, 57, 30
- (d) 69, 12, 65, 20
- 51. Two cars travel from city A to city B at a speed of 30 km/hr and 48 km/hr, respectively. If one car takes 3 hours lesser time than check the other car for the journey, then the distance between City A and City B is:
 - (a) 288 km (b) 240 km
 - (c) 360 km (d) 192 km
- 52. Simple interest on a certain sum of money for 3 years at 10% per annum is half the compound interest on ₹ 6000 for 2 years at 10% per annum. The sum placed on simple interest is:
 - (a) ₹ 4200(b) ₹ 2100(c) ₹ 1050(d) ₹ 1680

- 53. If 3 dupattas are offered free on purchase of 6 dupattas priced ₹ 1200 each, what is the effective discount on each dupatta?
 (a) 25 % (b) 20 %
 - (c) 12.5 % (d) 33.33 %
- 54. HCF and LCM of two numbers are 11 and 825, respectively. If one number is 275, find the other number.

(้ล`) 5	3		(\mathbf{h})	1 45
١	u	, .	<i>J</i>		0	1.5

- (c) 33 (d) 43
- 55. If $(1 \cos A)/2 = x$, then the value of x is:
 - (a) $\cos^2(A/2)$ (b) $\sqrt{\sin(A/2)}$
 - (c) $\sqrt{\cos(A/2)}$ (d) $\sin^2(A/2)$
- 56. If Gaganjyot's salary is 7/6 times of Hafiz's salary and Sayed's salary is 8/7 times of Hafiz's, salary what is the ratio of Gaganjyot's salary to Sayed's salary?
 - (a) 49:48 (b) 3:4
 - (c) 4:3 (d) 48:49
- 57. A shopkeeper by selling 20 Timex watches earns a profit equal to the selling price of 4 Timex watches. His profit percentage is:
 - (a) 20%
 - (b) 25%
 - (c) 40%
 - (d) 15%
- 58. If a cone of radius 10.5 cm and height 12 cm is melted and constructed into a cylinder of the same radius, what will be the height of this cylinder?
 - (a) 8 cm (b) 1.33 cm
 - (c) 2 cm (d) 4 cm
- 59. In a class of 65 students, there are 39 girls. The average weight of these girls is 60 kg and average weight of the full class is 64 kgs. What is the average weight of the boys of the class?
 - (a) 69 (b) 66
 - (c) 68 (d) 70
- 60. The length of the diagonal of a square is 14 cm. What is the area of this square?
 - (a) 49 sq. cm (b) 196 sq. cm
 - (c) 98 sq. cm (d) 77 sq. cm

61.	. A student multiplied a number by				
	4/7 instead of 7/4. What is the				
	percentage error in	n the calculation?			
	(a) 206.25 %	(b) 67.35 %			
	(c) 33.67 %	(d) 103.13%			
62.	Painter A can pain	nt a house in			
	40 days and Paint	er B can do it in 60			
	days. With the help of C, they did the				
	job in 20 days only. Now C alone can				
	do the job in:				
	(a) 120 days				
	(b) 20 days				
	(c) 225 days				
	(d) 15 days				
63.	Find the sum of the	e measures of all			
	the exterior angles	s of a decagon.			
	(a) 720°	(b) 2160°			
	(c) 360°	(d) 1800°			
64.	The diagonal of a	square is 1012 cm.			
	find its perimeter.				
	(a) 160 cm	(b) 80 cm			
	(c) 20 cm	(d) 40 cm			
65.	Which of the follo	owing is correct?			
	(a) $(6x+y)(x-6y)$	$= 6x^2 + 35xy - 6y^2$			
	(b) $(6x+y)(x-6y)$	$= 6x^2 - 35xy - 6y^2$			
	(c) $(6x+y)(x-6y)$	$= 6x^2 - 37xy - 6y^2$			
	(d) $(6x + y) (x - 6y)$	$= 6x^2 + 37xy - 6y^2$)			
66.	If $a - b = -5$ and	$a^2+b^2 = 73$, then			
	find ab.				
	(a) 35	(b) 14			
	(c) 50	(d) 24			
67.	The sum of a non-	zero number and			
	ten times its reciprocal is 7. Find				
	the number.				
	(a) 4	(b) 3			
	(c) 5	(d) 6			

68. If
$$2^a 5^b 7^c = 3500$$
, then

(a) a = 2, b = 3, c = 1
(b) a = 1, b = 2, c = 2

- (c) a = 1, b = 2, c = 2(c) a = 2, b = 2, c = 1
- (d) a = 3, b = 2, c = 1
- 69. A man can do a piece of work in 12 days. Then 4 men in 3 days can complete:(a) the whole work

(b)
$$\frac{3}{4}$$
 th of the work
(c) $\frac{2}{3}$ rd of the work

(d) $\frac{1}{2}$ of the work

- 70. The average of five numbers is 35. If 23, one of the numbers, is replaced by x, check then the average increases by 2. Then x
 (a) 31
 (b) 32
 - (c) 33 (d) 35
- 71. A salesman gets a commission of 3% if he sells an article. If the commission earned by the salesman on selling the article is ₹ 39, then the price of the article is:
 - (a) ₹1,400
 - (b) ₹ 1,200
 - (c) ₹ 1,300
 - (d) ₹ 1,500
- 72. A man deposited ₹ 15, 000 in a bank for 6 years. If the interest earned is ₹ 4,500, then the simple rate of interest per annum is:
 (a) 8%
 (b) 6%
 (c) 5%
 (d) 10%

Directions (Q. 73-75): There are six taxi companies (A, B, C, D, E, F) in a certain city. The bar graph shows the number of taxis run by each of these six companies. Study the diagram and answer the following questions.



73. Which taxi company has more taxis than company A but less than company D?

- (d) E
- 74. If 30 taxis quit Company B and join Company D, then Company D will have how many more taxis then Company C ?
 - (a) 40

- (c) 110
- (d) 70
- 75. Even if Companies A and C decide to merge, still Company D will have how many more taxis (in %) check than the merged Company A and Company C entity?
 - (a) 15%
 - (b) 20%
 - (c) 10%
 - (d) 25%

⁽a) B

⁽b) C

⁽c) F

⁽b) 30

SECTION-III : GENERAL TEST

1. (d) The Press Trust of India, incorporated in Madras on 27 August 1947, was the free India's first national news agency. It took over the operations of the Associated Press from Reuters soon after India's independence on August 15, 1947. Free Press of India, founded in the 1920s, was the first ne7ws agency owned and managed by Indians.

2. (b) Kudankulam Nuclear Power Plant is a nuclear power station in Kudankulam in the Tirunelveli district of Tamil Nadu. It is a joint Russia-India project. Construction on the plant began on 31 March 2002, but faced several delays due to the fishermen's objection.

3. (b) "Gokhale-My Political Guru" has been authored by Mohandas Karamchand Gandhi. It is a small book of 60 pages that was published in 1955. This

book is compilation of Gandhi's writings and speeches on Gokhale, mostly in Gujarati.

4. (a) Based on data from OPEC at the beginning of 2013, the highest proved oil reserves including non-conventional oil deposits are in Venezuela (20% of global reserves), Saudi Arabia (18% of global reserves), Canada (13% of global reserves) and Iran (9%).

5. (b) National Science Day is celebrated in India on 28 February each year to mark the discovery of the Raman effect by Indian physicist Sir C.V. Raman on 28 February 1928. For his discovery, Raman was awarded the Nobel Prize in Physics in 1930.

6. (a) Fluorosis is a disease caused by water that contains high amount of fluoride and particularly in ground water. It leads to hypomineralization of tooth enamel caused by ingestion of excessive fluoride during enamel formation. A major cause of fluorosis is the inappropriate use of fluoride containing dental products such as toothpaste and mouth rinses.

7. (d) Plants synthesize food directly from carbon dioxide and water using energy of light. In photosynthesis, chlorophyll in the leaves of plants absorbs light energy from the Sun. Plants use this energy to convert water and CO $_2$ from the environment into glucose and oxygen.

$$6CQ + 6HD$$
 Sunlight

 $C_6H_{12}O_6 + 6Q_2$ energy

8. (b) Calcium oxide (CaO) is commonly known as quicklime or burnt lime. It is usually made by the thermal decomposition of materials such as limestone, or seashells, that contain calcium carbonate (CaCQ) in a lime kiln. It is a key ingredient for the process of making cement.

9. (b) MIPS (Million Instructions Per Second) is a unit for measuring computer speed. The number of MIPS (million instructions per second) is a general

measure of computing performance and by implication, the amount of work a larger computer can do.

10. (a) The plane will be directly above the bag when it hits the ground. Since the bag is on the plane, it has the same horizontal velocity as the plane. Projectiles always maintain constant horizontal velocity (neglecting air resistance). When the bag is dropped, no horizontal velocity is given to it. So it will follow a parabolic path and remain directly below the plane at all time.

11. (c) Momentum is the product of the mass and velocity of an object. It is given by the formula: Momentum = Mass \times Velocity. Momentum is directly proportional to both mass and velocity. So when either of mass or velocity is doubled, momentum gets doubled too.

12. (d) Energy per unit volume (Energy Density), Force per unit area (Pressure) and Product of voltage and charge per unit volume is $ML^{-1}T^{-2}$. The dimension of Specific Angular Momentum (Angular Momentum per unit mass) is $ML^{2}T^{-1}$.

13. (a) Kala-azar, the most severe form of leishmaniasis, is a parasitic disease transmitted by the bite of infected female sandflies. Sandfly of genus Phlebotomus argentipes are the only known vectors of kala-azar in India. Kala-azar is also known as black fever, and Dumdum fever.

14. (b) The pulmonary veins are large blood vessels that receive oxygenated blood from the lungs and drain into the left atrium of the heart. There are four pulmonary veins, two from each lung. They play an essential role in respiration, by receiving blood that has been oxygenated in the alveoli. 15. (b) The original name of Mahabarata was "Jaya Samhita" as coined by Vyasa. When first narrated, it had only 8,800 shlokas and its original name was "Jaya" as written by Ganesha. The full 100,000 verses of the book were completed several centuries later by addition of many stories and was finally named as 'Mahabharata'.

16. (c) The indirect or market based instruments of monetary policy comprise

open market operations and the use of 'Repo' rate. An open market operation involves buying or selling of government securities from or to the public and banks. The RBI sells government securities to control the flow of credit and buys government securities to increase credit flow.

17. (b) The foreign exchange reserve of India consists of foreign currency assets held by the RBI, gold holding of the RBI, Special Drawing Rights (SDRs) and Reserve position in the International Monetary Fund (IMF). India foreign exchange reserve was ₹ 23,528 billion as on 29 January 2016.

18. (d) The 92nd constitutional Amendment Act, 2003, amended the Eight Schedule to the Constitution so as to include Bodo, Dogri, Santhali and Maithali Languages, thereby raising the total number of languages listed in the schedule to 22.

19. (b) Prayag-Prasasti is also known as Allahabad Pillar inscription. Composed by Harisena, this inscription talks about the achievements of Samudragupta. It is considered "the most important historical document of the classical Gupta age". It is in Sanskrit.

20. (d) Afanasy Nikitin was a Russian merchant. He was one of the first Europeans after Nicolo de' Conti to travel to and document his visit to India. He described his visit to India. He described his trip in a narrative known as "The Journey Beyond Three Seas".

21. (c) Sadr-us-Sadr was the head of public charities and ecclesiastical department. He was the head of the religious department. His primary duties were the propagation of Islam, observance of its principles and protection of the privileges of Muslims. 22. (a) "Problem of Human Geography" has been authored by Albert Demangeon, one of the outstanding pupils of Vidal de La Blache. The book was a collection of his papers on human geography. It was published as 'Problemes de geographie humaine' in 1942.

23. (c) Building of locomotives is the most famous manufacturing business of Philadelphia in USA. It is known for Baldwin Locomotive Works which dominated the Locomotive industry since the 20th century. It was once known as the 'Workshop to the world'.

24. (b) Honshu, the largest island of Japan, is famous for its iron ore reserves as well as oil. The major deposits of iron ore in the country are found near Kamaishi in northeast Honshu where the iron content of the ore averages about 60 per cent.

25. (b) Theory of intervening opportunities was given by Stouffer in 1940. Stouffer's law of intervening opportunities states that the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities.

26. (b) As seismology is related to earthquake similarly, hydrology is related to water.

27. (b) As, D R S E Similarly, N C D O 4 18 19 5+1+1+1+1

Finally, the missing term is DO.



Similarly



Finally, the missing term is IM. 29. (a) As $3 + 7 \rightarrow 10$ Similarly $(6 + 5) \rightarrow 11$

Finally, the missing number is11



Finally, the odd word pair is W. 31. (b) 235 = 2 + 3 + 5 = 10 = even 678 = 6 + 7 + + 8 = 21 = odd 347 = 3 + 4 + 7 = 14 = even 268 = 2 + 6 + 8 = 16 = evenFinally, the odd number is 678. 32. (d) $\frac{48}{3} = 16 \rightarrow \frac{16}{2} = 8$ $\frac{180}{2} = 60 \rightarrow \frac{60}{2} = 30$

$$\frac{3}{18} = 6 \qquad \rightarrow \frac{6}{2} = 3$$
$$\frac{150}{2} = 50 \qquad \rightarrow \frac{50}{2} = 25 = (5)^2$$

Finally, the odd number is 150 33. (d)

Finally, the missing term is PO. 34. (b)

Finally, the missing term is Sk. 35. (b) The series is:



Finally, the missing number is 87.

36. (c) 14 September \rightarrow Tuesday

21 " 28 " 5 October \rightarrow Tuesday

19 " \rightarrow Tuesday

 $\therefore \quad 17 \text{ October} \rightarrow \text{Tuesday} - 2 \text{ days}$ = Sunday

37. (a) According to the dictionary, the arrangement of the words is as given below:

(iii) Heavy, (iv) Herald, (i) Heredity,(ii) Hesitate



Opposite words

Finally, 'LITERACY' is written as 'YCARETIL'

39. (b) R - D = N(18 - 4) = 14and (X - V) = B(24 - 22) = 2Similarly, ? - L = F? = (F + L)= (6 + 12) = 18 = R] Finally, the missing letter is R. 40. (d) then, Given expression: 76 B 19 C 7 A 3 D 25 After Changing the signs: $= 76 \div 19 \times 7 + 3 - 25$ $= 4 \times 7 + 3 - 25$ = 28 + 3 - 25 = 31 - 25 = 641. (b) The series is:

MRNRMNMRNRMN

Finally, the set of letters 'RRNNM' will complete the series.





So, both the conclusions are follow.

48. (a) Answer (a) will complete the pattern of the given question figures. 49. (c) B The triangles are as given below: $\Delta AFE; \Delta AEG; \Delta AED; \Delta AGB;$ $\Delta ADB; \Delta ADC;$ $\Delta AFD; \Delta AFC; \Delta GED; \Delta GBD;$ $\Delta BDC; \Delta BEC;$ $\triangle AEB; \triangle AEC; \triangle DBE$ Thus, there are 15 triangles in the given figure. 50. (d) S = 56, (69), 76, 99N = 01, (12), 23, 43O = 59,(65), 75, 79 W = (20), 30, 31, 40, 41For 'SNOW', the set of numbers is 69, 12, 65, 20 51. (b) Let slow-speed car takes time = t hours and fast-speed car takes = (t - 3) hours Distance will be the same in both the cases: \Rightarrow 48(t-3) = 30t \Rightarrow 48t - 48 × 3 = 30 \Rightarrow (48 - 30) = 48 × 3 $t = \frac{48 \times 3}{18} = 8 \text{ hours}$ Distance = $30 \times 8 = 240$ km. 52. (b) Let the principal be P $P \times 10 \times 3$ 100 $=\frac{1}{2} \times 6000 \left(1 + \frac{10}{100}\right)^2$ $=\frac{1}{2}\times 6000\left[\left(\frac{11}{10}\times\frac{11}{10}\right)-1\right]$

$$\Rightarrow \frac{P \times 3}{10} = 3000 \times \frac{21}{100} = ₹ 630$$

$$\Rightarrow P = \frac{630 \times 21}{3} = ₹ 210 \times 10$$

$$= 2100$$
Hence, principal is₹ 2100.
53. (d) Effective %
$$= \frac{3 \times 1200}{9 \times 1200} \times 100\%$$

$$= \frac{3}{9} \times 100\%$$

$$= \frac{100\%}{3} = 33\frac{1}{3}\%$$

$$= 33.33\%.$$
54. (c) Second number
$$= \frac{HCF \times LCM}{1 \text{ st number}}$$

$$= \frac{11 \times 825}{275} = 33$$

$$\therefore \text{ Hence, the second number is 33.}$$
55. (d) x = (1-cos A)/2
$$= \frac{2\sin^2 A/2}{2}$$

$$= \sin^2 (A/2)$$
56. (a) Gaganjyot's salary
$$= \frac{7}{6} \text{ of Hafiz's salary}$$
Sayed's salary = $\frac{8}{7}$ of Hafiz salary
Required ratio = $\frac{7}{6} / \frac{8}{7} = \frac{7 \times 7}{6 \times 8}$

$$= \frac{49}{48} = 49 : 48$$
57. (b) S.P. - C.P. = Profit 20 - C.P. = 4
C.P. = (20 - 4) = 16 watches
Profit % = $\frac{4 \times 100}{16} = 25\%.$
58. (d) Volume of cylinder
$$= Volume of cone$$

$$\Rightarrow \pi r^2 H$$

$$= \frac{1}{3}\pi r^{2}h [\because \text{ radius is the same}]$$
$$\Rightarrow \text{ H} = \frac{1}{3}h = \frac{1}{3} \times 12 = 4 \text{ cm.}$$

59. (d) Total weight of 39 girls

 $= 60 \times 39 \text{ kg} = 2340 \text{ kg}$

Total weight of the students of the whole class

 $= 64 \times 65 = 4160 \text{ kg}$ Average weight of boys

$$= \frac{4160 - 2340}{26}$$
$$= \frac{1820}{26} = 70 \text{ kg}.$$

60. (c) Let the length of side of a square be x.

THAT X

According to the question:

 $\Rightarrow x^2 + x^2 = (14)^2$ Area = $x^2 = 98$ sq. cm.

61. (b) Let the number be x

Then,

Percentage error

$$= \frac{\frac{7}{4}x - \frac{4}{7}x}{\frac{7}{4}x} \times 100\%$$
$$= \frac{\frac{49x - 16x}{28}}{\frac{7}{4}x} \times 100\%$$
$$= \frac{33x \times 4 \times 100\%}{28 \times 7x}$$
$$= \frac{33}{49} \times 100\% = 67.35\%$$

62. (a) A's one day's work of painting

$$=\frac{1}{40}$$

B's one day's work of painting $=\frac{1}{60}$ (A + B + C)'s one day' s work of painting $=\frac{1}{20}$ (A + B)'s one day work $=\frac{1}{40}+\frac{1}{60}$ $=\frac{3+2}{120}=\frac{5}{120}=\frac{1}{24}$ C's one day's work = $\frac{1}{20} - \frac{1}{24}$ $=\frac{6-5}{120}=\frac{1}{120}$ Time taken by C to complete the whole work = 120 days. 63. (c) Interior angle $=\frac{(2n-4)\times90^{0}}{}$ Where n = 10 $=\frac{(2\times10-4)\times90^{-0}}{10}$ $=\frac{(20-4)\times90^{0}}{10}=144^{\circ}$ Exterior angle $= 180^{\circ} - 144^{\circ} = 36^{\circ}$ Sum of all exterior angles $= 10^{\circ} \times 36^{\circ} = 360^{\circ}$ 64. (d) Let the side of a square becm

Then,

$$\Rightarrow x^{2} + x^{2} = (10\sqrt{2})^{2}$$
$$\Rightarrow 2x^{2} = 100 \times 2$$
$$\Rightarrow x^{2} = 100$$
$$\therefore x = \sqrt{100} = 10 \text{ cm}$$
Perimeter = 4 × side

Perimeter = $4 \times \text{side}$ = $4 \times 10 \text{ cm} = 40 \text{ cm}$ 65. (b) Solving the given options: (6x + y)(x - 6y)= 6x(x-6y) + y(x-6y) $= 6x^2 - 36xy + xy - 6y^2$ $= 6x^2 - 35xy - 6y^2$ Option (b) is correct. 66. (d) a - b = -5, and $a^2 + b^2$ = 73, ab = ?We know that \Rightarrow $(a-b)^2 = a^2 + b^2 - 2ab$ \Rightarrow $(-5)^2 = 73 - 2ab$ $\Rightarrow 25 = 73 - 2ab$ $\therefore 2ab = 73 - 25 = 48$ $ab = \frac{48}{2} = 24.$ 67. (c) Let the number bex. According to the question: $\Rightarrow x + \frac{10}{x} = 7$ $\Rightarrow x^2 + 10 = 7x$ $\Rightarrow x^2 - 7x + 10 = 0$ \Rightarrow x²-5x-2x+10 = 0 \Rightarrow x(x-5) -2(x-5) = 0 \Rightarrow (x-5) (x-2) = 0 x = 5 or x = 2Hence, correct option is 5. 68. (a) If 2^a 5^b $7^c = 3500$

 $\Rightarrow 2^{a} \times 5^{b} \times 7^{c} = 2^{2} \times 5^{3} \times 7^{1}$ Comparing indices on both sides: a = 2, b = 3, & c = 169. (a) A man can do a work in 1

59. (a) A man can do a wor

day =
$$\frac{1}{12}$$

and 4 men can do a work in 1 day

$$=\frac{4}{12}=\frac{1}{3}$$

Now, 4 men can do a work in 3 days

$$=\frac{3}{3}=1$$

Hence, they can complete the whole work.

70. (c) Average of 5 numbers = 35 Then, sum of 5 numbers = $35 \times 5 = 175$

If 23 is one of the numbers, then: Sum of 4 numbers + 23 = 175Sum of 4 numbers = 152Now, according to the question: $\frac{\text{Sumof 4numbers} + x}{z} = 35 + 2$ 5 \Rightarrow 152 +x = 37 × 5 \Rightarrow 152 +x = 185 \Rightarrow x = (185 - 152) \therefore x = 33 71. (c) Let the price of the article be ₹ x. Then $x \times \frac{3}{100} = 39$ $\Rightarrow \quad x = \frac{39 \times 100}{3}$ $\Rightarrow x = \frac{13 \times 3 \times 100}{3}$ ∴ x =₹ 1300 72. (c) Let the rate of interest per annum = r%Then, S.I. = $\frac{P \times R \times T}{100}$ $\Rightarrow 4500 = \frac{15,000 \times r \times 6}{100}$ $\Rightarrow r = \frac{4,500 \times 100}{15,000 \times 6} = 5\%$ 73. (b)

74. (d) Total number of taxis in Company D = 75 + 30 = 105

Total number of taxis in Company C = 35

: Required difference

=(105-35)=70

75. (d) Total number of taxis in companies A and C = 25 + 35

Total number of taxis in Company D = 60

.: Required percentage

$$= \frac{75 - 60}{60} \times 100$$
$$= \frac{15}{60} \times 100 = 25\%$$