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EXAMINATION FOR SELECTION POSTS

PHASE-IX

Matriculation Level

GENERAL INTELLIGENCE & REASONING .....

GENERAL AWARENESS .....

QUANTITATIVE APTITUDE (Basic Arithmetic Skill) .....

GENERAL ENGLISH (Basic Knowledge) .....

SSC MATRICULATION LEVEL 2020 2019 Solved Original Question Papers included

SURA COLLEGE OF COMPETITION
Chennai

B 649

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SCHEME OF EXAMINATION

There will be three separate Computer Based Examinations consisting of Objective Multiple Choice Questions, for posts with minimum Educational Qualification of Matriculation, Higher Secondary and Graduation & above levels. The details of subjects, marks and number of questions subject-wise are given below:-

Part	Subject	No. of Questions	Maximum Marks	Total Duration
A	General Intelligence	25	50	60 Minutes (Total)
B	General Awareness	25	50	
C	Quantitative Aptitude (Basic Arithmetic Skill)	25	50	
D	English Language (Basic Knowledge)	25	50	

Note : **There will be negative marking of 0.50 marks for each wrong answer.**

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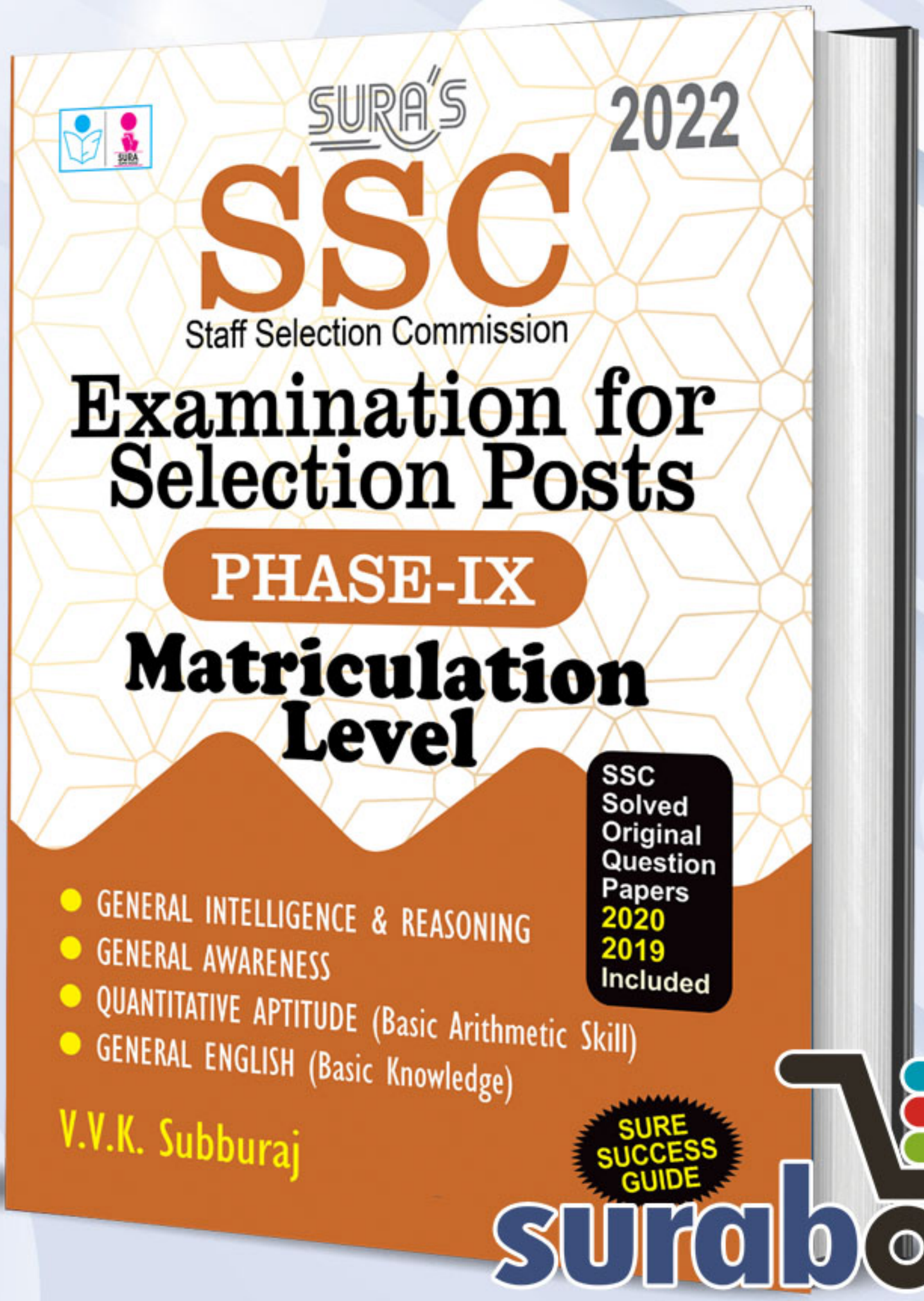
Phase IX Exam Book



SSC PHASE VIII

MATRICULATION LEVEL

Time : 1 hour — **Solved Original Question Paper - 2020** — **Held on : 09.11.2020**

General Intelligence

1. Select the option that represents the correct order of the given words as they would appear in an English dictionary ?

1) Radical **2)** Ready
3) Reverse **4)** Random
5) Ransom

Codes:

	a)	b)	c)	d)	e)
A)	1	4	5	3	2
B)	1	4	2	5	3
C)	1	4	5	2	3
D)	1	5	4	2	3

Explanation: **Ans. : (C)**

As per dictionary order

Radical - 1
Random - 4
Ransom - 5
Ready - 2
Reverse - 3

2. In a code language, PREY is written as EPRY and TOOLS is written as LOOST. How will TESTS be written in that

A) ESSTT **B)** ESTUT
C) SERTT **D)** TTSES

Explanation: **Ans. : (A)**

Letters are arranged in the English alphabetical series.

PREY → EPRY

TOOLS → LOOST

Similarly,

TESTS → ESSTT

3. In a code language, if WITH is written as 418719 and FOOD is written as 21121223, then how will MENTAL be

A) 13221472615 **B)** 14221317112
C) 14513202615 **D)** 14221372615

Explanation: **Ans. : (D)**

Letters are coded by the place value of their opposite letters.

Opposite letters

A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N

W	I	T	H
D	R	G	S
4	18	7	19

F	O	O	D
U	L	L	W
21	12	12	23

Similarly,

M	E	N	T	A	L
N	V	M	G	Z	O
14	22	13	7	26	15

4. In a code language, if GOOD is written as 7444 and BAD is written as 214, then how will HINT be written in the same language ?

A) 991420 **B)** 831420
C) 891320 **D)** 831417

Explanation: **Ans. : (B)**

Vowels are coded as A = 1 ; E = 2, I = 3, O = 4, U = 5

Consonants are coded by their place values.

G	O	O	D
7	4	4	4

B	A	D
2	1	4

Similarly,

H	I	N	T
8	3	14	20

5. `Hockey' is related to `Game' in the same way as `Kathak' is related to `_____'

A) Expressions **B)** Dancers
C) Eyes **D)** Dance **Ans. : (D)**

6. If 'A' denotes 'addition, `B' denotes 'multiplication', 'C' denotes 'subtraction' and `D' denotes 'division', then what will be the value of the following expression ?

32 B 3 C (17A4) B 3A 24 D 4 = ?

A) 39 **B)** 29
C) 43 **D)** 34

Explanation: **Ans. : (A)**

A ⇒ +	B ⇒ ×
C ⇒ –	D ⇒ ÷

USING BODMAS METHOD

32B 3 C (17A4) B 3 A 24 D 4 = ?

$32 \times 3 - (17+4) \times 3 + 24 \div 4$

$\Rightarrow 32 \times 3 - 21 \times 3 + 24 \div 4$

$\Rightarrow 32 \times 3 - 21 \times 3 + 6$

$\Rightarrow 96 - 63 + 6$

$\Rightarrow 96 + 6 - 63 = \boxed{39}$

7. Select the letter cluster that is related to the third letter cluster in the same way as the second letter cluster is related to the first letter cluster.

LSQG : PWMC : : THZS : ?

A) XMVP **B)** XLVO

C) YLVN **D)** XKRO

Explanation: **Ans. : (B)**

L S Q G → P W M C

+4, +4, – 4, – 4

Similarly,

T H Z S → X L V O

+4, +4, – 4, – 4

8. `China' is related to `Asia' in the same way as `Nepal' is related to `_____'

A) Europe **B)** Asia

C) Antarctica **D)** Africa **Ans. : (B)**

9. Select the set of letters that, when sequentially placed in the blanks of the given letter series, will complete the letter series

D_ _ G_ U K _ D _ K G

A) U K D G U **B)** U K D G D

C) D U D G U **D)** G K U G U

Explanation: **Ans. : (A)**

D $\boxed{U}$ $\boxed{K}$ G / $\boxed{D}$ U K $\boxed{G}$ / D $\boxed{U}$ K G

10. Select the letter cluster that is related to the third letter cluster in the same way as the second letter cluster is related to the first letter cluster.

DMO : AIJ : : UFL : ?

A) SMG **B)** ASG

C) RBG **D)** RDH

Explanation: **Ans. : (C)**

D M O → A I J

– 3, – 4, – 5

Similarly,

U F L → R B G

– 3, – 4, – 5

11. In a code language, if CUSTOMER is written as TSUCREMO, then how will DISCRETE be written in the same language ?

A) CJRBSDSF **B)** EJTDSFUF

C) CSIDETER **D)** CSDIEERT

Explanation: **Ans. : (C)**

1 2 3 4 → 2 1 4 3

CU ST OM ER → ST CU ER OM

T S U C R E MO

Similarly,

DI SC RE TE → SC DI TE RE

C S I D E T E R

12. Three statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements :

Statements :

Some engineers are doctors.

Some doctors are architects

Some architects are designers.

Conclusions:

I. Some designers are engineers

II. Some architects are doctors.

III. Some doctors are engineers.

Select the correct answer :

A) Only conclusions I and II follow

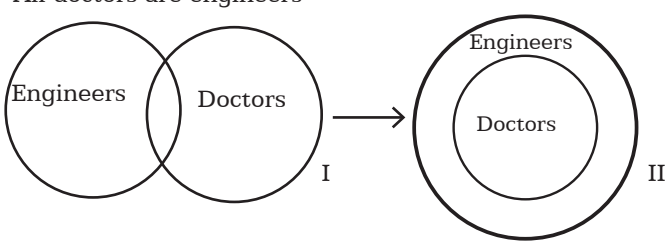
B) Only conclusions I and III follow

C) Only conclusions II and III follow

D) All of the conclusions follow.

Explanation: **Ans. : (C)**

Some engineers are doctors → conversion in to "All doctors are engineers"

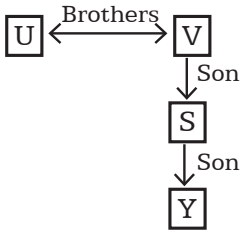


24. If 'A # B' means 'A is the father of B' and 'A & B' means 'A is the brother of B', then which of the following expression means 'V is the paternal grandfather of Y'?.

A) U & V # Y # S **B)** U & V & S # Y
C) U & V # S # Y **D)** U & V # S & Y

Explanation: **Ans. : (C)**

U & V ⇒ U is the brother of V.
V # S ⇒ V is the father of S.
S # Y ⇒ S is the father of Y.



V is the paternal grand father of Y

25. In a code language if PLACE is written as 5311216 and PLAY is written as 2511216, then how will RATE be written.

A) 519128 **B)** 511207
C) 420116 **D)** 520118

Explanation: **Ans. : (D)**

P L A C E $\xrightarrow{\text{Reverse order}}$ E C A L P

E C A L P
↓ ↓ ↓ ↓ ↓
Alphabetical positions → 5 3 1 12 16

P L A Y $\xrightarrow{\text{Reverse order}}$ Y A L P

Y A L P
↓ ↓ ↓ ↓
25 1 12 16

Similarly, R A T E $\xrightarrow{\text{Reverse order}}$ E T A R

E T A R
↓ ↓ ↓ ↓
5 20 1 18

English Language Basic Knowledge

1. Select the wrongly spelt word

A) Scenery **B)** Geometry
C) Boundry **D)** Primary **Ans. : (C)**

2. Select the most appropriate synonym of the given word. 'Obtain'

A) drop **B)** get
C) pass **D)** lose **Ans. : (B)**

3. Select the most appropriate option to fill in the blank.

The Jupiter is the _____ planet in our solar system.

A) bigger **B)** big
C) most big **D)** biggest **Ans. : (D)**

4. Select the most appropriate antonym of the given word.

FREED

A) discharged **B)** imprisoned
C) released **D)** liberated **Ans. : (B)**

5. Select the most appropriate synonym of the given word.

DISPUTE

A) agreement **B)** harmony
C) peace **D)** quarrel **Ans. : (D)**

6. Select the most appropriate antonym of the given world.

CALM

A) excited **B)** cool
C) restful **D)** still

Ans. : (A)

7. Select the most appropriate option to fill in the blank.

The bus _____ before I reached the bus stand.

A) leaves **B)** had left
C) left **D)** is leaving **Ans. : (B)**

8. Select the correct passive from the given sentence.

She did not accept the job of a clerk.

A) The job of a clerk has not accepted her.
B) The job of a clerk was not accepted by her.
C) The job of a clerk did not accept her.
D) The job of a clerk is not accepted by her.

Ans. : (B)

9. Select the most appropriate meaning of the given idiom.

To look after

A) To take care **B)** To search for
C) To anticipate **D)** To remove **Ans. : (A)**

10. Select the most appropriate word for the given group of words.

A group of birds of one kind.

A) Bevy **B)** Band
C) Flock **D)** Crowd **Ans. : (C)**

11. Select the correct indirect of the given sentence.

The policeman said, "We are stopping the defaulters of the lock down".

A) The policeman said that we are stopping the defaulters of the lock down.

B) The policeman says that they are stopping the defaulters of the lock down.
C) The policeman told that he was stopping the defaulters of the lock down.
D) The policeman said that they were stopping the defaulters of the lock down.

Ans. : (D)

12. Select the wrongly spelt word.
A) Exept **B)** Expect
C) Excess **D)** Exact
Ans. : (A)

13. Select the wrongly spelt word.
A) Nuetrai **B)** Nervous
C) Never **D)** Nature **Ans. : (A)**

14. Select the most appropriate meaning of the given idiom.

Vanish into thin air
A) To completely disappear
B) To begin suddenly
C) To remove suddenly
D) To postpone something **Ans. : (A)**

15. Select the most appropriate word for the given group of words.

A disease which spreads with contact.
A) poisonous **B)** contractual
C) Contagious **D)** Endemic **Ans. : (C)**

COMPREHENSION :

Direction No. Qn. 16 - 20

In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each number.

Some diseases have an animal reservoir, meaning they can infect other species besides humans. Yellow fever, for example, (1) _____ humans, but can also infect monkeys. If a mosquito (2) _____ of spreading yellow fever bites an infected monkey, the (3) _____ can then give the disease to humans. So even if the (4) _____ population of the planet could somehow be vaccinated (5) _____ yellow fever, its eradication could not be guaranteed.

16. Select the most appropriate to fill in the blank No.1
A) poisons **B)** infects
C) transmits **D)** passes **Ans. : (B)**

17. Select the most appropriate option to fill in the blank No. 2
A) gifted **B)** capable
C) skilled **D)** talented **Ans. : (B)**

18. Select the most appropriate option to fill in the blank No. 3
A) monkey **B)** animal
C) mosquito **D)** human **Ans. : (C)**

19. Select the most appropriate option to fill in the blank No.4
A) absolute **B)** full
C) completely **D)** entire **Ans. : (D)**

20. Select the most appropriate option to fill in the blank No.5
A) on **B)** across
C) against **D)** through **Ans. : (C)**

Direction Qn. No. 21 to 24

Read the following passage and answer the questions given after it.

Flamingoes come to Kutch from various parts of the world every year to breed. For centuries, the region had been a haven for the migratory birds. Today, Flamingo City, an island in the middle of the Rann of Kutch, known the world over as one of the biggest breeding grounds of the Greater Flamingo, is strewn with bodies of hundreds of flamingo chicks.

The parents of these chicks have fled from the island due to lack of food. Zooplanktons, algae and the small fish that these birds survive on are dying due to a sudden increase in the salinity of the Rann waters.

Flamingoes need salt-encrusted, damp mud to build nests. The place where they build their nests has to be inaccessible to predatory cats and birds. It should also have sufficient food. Faced with starvation, flamingoes have fled from the island leaving their chicks to fend for themselves. Till date around a thousand flamingoes have died.

Maharaj Kumarshi Himmatsinghji, a member of the royal family of Kutch and an expert on the birds of Kutch, traces the problem of increased salinity in the Rann waters to the construction of dams on rivers that flow into the region. He emphasizes that effort should be made to ensure that, at least, some water flows into the Rann. In fact over the years, the number of flamingoes coming to the island have decreased because of the change in salinity of the Rann water. In 1945, Salim Ali, the late ornithologist, had found 5 lakh birds on the island.

Since then, the number has not gone above 2.2 lakh. However, the studies carried out on the Flamingo City so far cannot be taken as 100 percent accurate because very few ornithologists have conducted regular studies on flamingoes in the area. The reason: the terrain is so inhospitable that it is simply not possible to visit the place every year. Says Himmatsinghji,

"The ringing of flamingoes is mandatory to conduct accurate and long term studies on the birds. Unfortunately, ever since Flamingo City was discovered in 1893, not a single bird has been ringed. No wonder questions like from where these birds migrate every year remain only partially answered.

21. What was the main cause of the death of flamingo chicks?

A) Construction of dams on rivers
B) Inhospitable terrain
C) Increase in the salinity of water
D) Hunting by the predatory cats and birds

Ans. : (C)

22. Which of the following statements is NOT true according to the passage

A) Rann of Kutch is one of the biggest breeding place of flamingoes.
B) Flamingo City is an island in the middle of the Rann of Kutch.
C) Flamingo City was discovered in 1893.
D) In 1945, Salim Ali, the late ornithologist, had found 2.2 lakh birds on the island.

Ans. : (D)

23. What is necessary to conduct regular studies on migratory birds?

A) The birds under study should be ringed.
B) The ornithologists should watch the birds continuously.
C) The researchers should stay with the birds.
D) The place of origin of the birds should be known.

Ans. : (A)

24. What is necessary to conduct regular studies on migratory birds ?

A) ornithologists conduct regular studies on flamingos in the Kutch area.
B) the number of flamingoes coming to Kutch has increased in the last 40 years.
C) it is impossible to carry out studies on flamingoes.
D) it is not known for sure where the flamingoes come from.

Ans. : (D)

25. Why was Rann of Kutch considered a 'haven' for flamingoes?

a. It had salt-encrusted damp mud.
b. It had highly saline water.
c. Algae, zoo plankton and small fish were in plenty.
d. It was safe from predators.

Which are the correct factors?

A) a, b, and c **B)** a, c, and d
C) b, c and d **D)** a, b and d **Ans. : (B)**

QUANTITATIVE APTITUDE BASIC ARITHMETIC SKILL

1. Pipes A and B can fill a tank in 30 minutes and $37\frac{1}{2}$ minutes, respectively. C is an outlet pipe. When all the three pipes are opened together, then the tank is full to 25 minutes. In how much time (in minutes) can C alone empty $\frac{2}{5}$th part of the tank ?

A) 30 **B)** 25
C) 20 **D)** 25

Explanation: **Ans. : (C)**

Let us pipe C can empty the tank in x minutes.

One minute's work of A, B and C together $= \frac{1}{25}$

$$\Rightarrow \frac{1}{30}+\frac{2}{75}-\frac{1}{x}=\frac{1}{25}$$

$$\Rightarrow \frac{5+4}{150}-\frac{1}{x}=\frac{1}{25} \Rightarrow \frac{9}{150}-\frac{1}{x}=\frac{1}{25}$$

$$\Rightarrow \frac{1}{x}=\frac{9}{150}-\frac{1}{25}$$

$$\Rightarrow \frac{9-6}{150}=\frac{3}{150}=\frac{1}{50}$$

C alone can empty the tank = 50 minutes

$\therefore$ C alone can empty the $\frac{2}{5}$th tank $= 50 \times \frac{2}{5} = 20$

C alone can empty $\frac{2}{5}$ part of the tank is 20 minutes.

2. Four years ago, the ratio of the ages of A and B was 9 : 13. Eight years hence, the ratio of the ages of A and B will be 3 : 4. What will be the ratio of their ages 4 years hence ?

A) 7 : 9 **B)** 9 : 11
C) 5 : 7 **D)** 11 : 15

Explanation: **Ans. : (D)**

Four years ago the ratio of A and B is 9 : 13

Eight years hence the ratio of A and B is 3 : 4

$$\Rightarrow \frac{9x+4+8}{13x+4+8}=\frac{3}{4}$$

$\Rightarrow 36x + 16 + 32 = 39x + 12 + 24$

$\Rightarrow 36x + 48 = 39x + 36$

$\Rightarrow 3x = 12$

$\Rightarrow \therefore x = 4$

The present age of A $= 9 \times 4 + 4 = 40$

The present age of B $= 13 \times 4 + 4 = 56$

The ratio after 4 years,

$$\Rightarrow \frac{40+4}{56+4}=\frac{44}{60}=\frac{11}{15}$$

3. The sides of a triangular field are 140 m. 225 m and 265 m. What is the cost of levelling it at ₹5.50 per m^2?

A) 86,625 **B)** 88,200

C) 85,050 **D)** 80,437

Explanation: **Ans. : (A)**

Let the sides of triangle be x, y and z.

The semi perimeter of triangle $= \frac{x+y+z}{2}$

$\Rightarrow \frac{140+225+265}{2} = \frac{630}{2} = 315$

Area of triangle $= \sqrt{\{s(s-x)(s-y)(s-z)\}}$

$\Rightarrow \sqrt{315(315-140)(315-225)(315-265)}$

$\Rightarrow \sqrt{248062500} = 15750$

Total cost $= 15750 \times 5.50$

$= ₹86,625$

4. If $4x^2+9y^2+z^2+49=12(x+y+z)$, then what is the value of $(4x+9y-z)$?

A) 9 **B)** 6

C) 0 **D)** 12

Explanation: **Ans. : (B)**

$4x^2 + 9y^2 + z^2 + 49 = 12(x+y+z)$

$4x^2 + 9y^2 + z^2 + 49 = 12(x+y+z)$

$\Rightarrow 4x^2 + 9y^2 + z^2 + 49 - 12x - 12y - 12z = 0$

$\Rightarrow \{(2x)^2 - 2\times 3 \times 2x + 3^2\} +$

$\{(3y)^2 - 2\times 3y \times 2 + 2^2\} +$

$\{(z)^2 - 2 \times z \times 6 + 6^2\} = 0$

If $(x-a)^2 + (y-b)^2 + (x-c)^2 = 0$ then, $x = a$, $y = b$ and $z = c$

$\Rightarrow (2x-3)^2 + (3y-2)^2 - (z-6)^2 = 0$

$\Rightarrow 2x = 3$, $3y = 2$ and $z = 6$

Now $(4x + 9y - z)$

$\Rightarrow (2 \times 2x) + (3 \times 3y) - z$

$\Rightarrow (2 \times 3) + (3 + 2) - 6 = 6$

5. If the speed of a train is increased by 30% it takes 36 minutes less to cover the same distance. What is the time taken (in hours) to cover the same distance with the original speed ?

A) 3.5 **B)** 3.2

C) 2.6 **D)** 2.4

Explanation: **Ans. : (C)**

Let the speed of the train be S and the distance be D and time be T.

$\Rightarrow T = \frac{D}{S}$ ... (1)

$\Rightarrow T - \frac{36}{60} = \frac{D}{130S/100}$ ... (2)

By solving equation (1) and (2)

$\Rightarrow 0.3T = 0.78$

$\therefore T = 2.6$ hours

6. At what price should a shirt, costing ₹602, be marked so that there is a profit of 10% when it is sold by given 14%

A) ₹ 700 **B)** ₹750

C) ₹ 660 **D)** ₹770

Explanation: **Ans. : (D)**

Let the marked price be x

$\Rightarrow x \times \left(\frac{86}{100}\right) = 602 \times \left(\frac{110}{100}\right)$

$\Rightarrow x \times 0.86 = 602 \times \frac{11}{10}$

$\Rightarrow x \times 0.86 = \frac{6622}{10}$

$\Rightarrow x \times 0.86 = 662.2$

$\therefore x = \frac{662.2}{0.86} = 770$

The marked price of the shirt = ₹770.

7. The compound interest on a certain sum for 1 year at 8% p.a. interest compounded half yearly is ₹652.80. What will be the simple interest on the same sum for $2\frac{1}{2}$ years at the same rate of interest.

A) ₹1,740 **B)** ₹1,600

C) ₹1,680 **D)** ₹1,720

Explanation: **Ans. : (B)**

$CI = P\left(1+\frac{r}{100}\right)^n - P$

The rate of Half yearly $= \frac{8}{2} = 4\%$, $n = 2$

$\Rightarrow P\left(1+\frac{4}{100}\right)^2 - P = 652.80$

$\Rightarrow P\left[\left(\frac{104}{100}\right)^2 - 1\right] = 652.80$

$\Rightarrow P\left[\left(\frac{26}{25}\right)^2 - 1\right] = 652.80$

$\Rightarrow P\left[\frac{676-625}{625}\right] = 652.80$

$P = \frac{652.80 \times 625}{51} = 8000$

$SI = \frac{PNR}{100} = \frac{8000 \times \frac{5}{2} \times 8}{100}$

$\Rightarrow 80 \times 20 = 1600$

$\therefore$ Simple Interest is ₹1600

8. If the simple interest on a certain sum for $2\frac{2}{3}$ years at 15% p.a. is 514.80 less than the simple interest on the same sum for $4\frac{3}{4}$ years at 12% p.a. then the sum is :

A) ₹4,860 **B)** ₹4,580

C) ₹4,680 **D)** ₹4,784

Explanation: **Ans. : (C)**

$SI = \frac{PNR}{100}$

SI for 2.66 years $= \frac{P \times 2.66 \times 15}{100} = 0.40p$

SI for 4.25 years $= \frac{P \times 4.25 \times 12}{100} = 0.51p$

$0.51p - 0.40p = 0.11p$

$0.11p = 514.80$

$P = \frac{514.80}{0.11} = ₹4680$

9. The value of $\left(5\frac{1}{9} - 7\frac{7}{8} \div 9\frac{9}{20}\right) \times \frac{9}{11} - \left(5\frac{1}{4} \div \frac{3}{7} \text{ of } \frac{1}{4} \times \frac{2}{7}\right) \div 4\frac{2}{3} + 1\frac{3}{4}$ is

A) $2\frac{1}{4}$ **B)** $2\frac{1}{3}$

C) $4\frac{1}{2}$ **D)** $3\frac{1}{4}$

Explanation : **Ans. : (A)**

$\left(5\frac{1}{9} - 7\frac{7}{8} \div 9\frac{9}{20}\right) \times \frac{9}{11} - \left(5\frac{1}{4} \div \frac{3}{7} \text{ of } \frac{1}{4} \times \frac{2}{7}\right) \div 4\frac{2}{3} + 1\frac{3}{4}$

$\left(\frac{46}{9} - \frac{63}{8} \div \frac{189}{20}\right) \times \frac{9}{11} - \left(\frac{21}{4} \div \frac{3}{7} \text{ of } \frac{1}{4} \times \frac{2}{7}\right) \div \frac{14}{3} - \frac{7}{4}$

$\left(\frac{46}{9} - \frac{5}{6}\right) \times \frac{9}{11} - \left(\frac{21}{4} \div \frac{3}{8} \times \frac{2}{7}\right) \div \frac{14}{3} + \frac{7}{4}$

$\left(\frac{92-15}{18}\right) \times \frac{9}{11} - \left(\frac{21}{2} \times \frac{3}{28}\right) \div \frac{14}{3} + \frac{7}{4}$

$\frac{77}{18} \times \frac{9}{11} - (14) \div \frac{14}{3} + \frac{7}{4}$

$\frac{7}{2} - 3 + \frac{7}{4}$

$\frac{7}{2} - 3 + \frac{7}{4} = \frac{14-12+7}{3} = \frac{9}{4} = 2\frac{1}{4}$

10. Which of the following is divisible by 88?

A) 4987136 **B)** 4897136

C) 4978136 **D)** 4987316

Explanation: **Ans. : (A)**

88 is the product of 8 and 11. The number which qualifies at to both divisibility rule of 8 and 11 will be the answer.

A natural number is divisible by 11, if the difference between the sum of the odd numbered digits and the sum of even - numbered digits is multiple of 11 or zero.

A natural number is divisible by 8 if the last three digits are zeros or the number formed by the last three - digits is divisible by 8.

$\Rightarrow$ 4987136 will qualify both properties.

11. The average of five consecutive even numbers (in increasing order) is k. If the next four consecutive even numbers are.

A) k + 4 **B)** k + 6

C) k + 5 **D)** 2k –1

Explanation: **Ans. : (A)**

Let the numbers be,

x, $x+2$, $x+4$, $x+6$, $x+8$ and next four is $x+10$, $x+12$, $x+14$, $x+16$

$\Rightarrow \frac{(x+x+2+x+4+x+6+x+8)}{5} = k$

$\Rightarrow \frac{5x+20}{5} = k = 5x + 20 = 5k$

$\therefore x + 4 = k$

$\Rightarrow \frac{(x+10+x+12+x+14+x+16+5x+20)}{5+4}$

$\Rightarrow \frac{9x+72}{9} = x + 8$

$\Rightarrow x + 4 + 4 = k + 4$

The average = k + 4

$Z = (X + Y) \times \frac{140}{100}$

$5Z = 7X + 7Y$

$5Z = 7X + 7\left(\frac{20}{13}\right) \times X$

$= \frac{(91X + 140X)}{13}$

$Z = \frac{231X}{65}$

What % more than $= \frac{\left(\frac{231X}{65} - 2X\right)}{2X \times 100}$

$\frac{101}{130} \times 100 = 77.69\% \approx 77.70\%$

22. A certain number of persons can complete a task in 28 days. If there were 150 persons more, it would have taken 7 days less for the task to be completed. How many persons are there in the beginning ?

A) 480 **B)** 420

C) 350 **D)** 450

Explanation: **Ans. : (D)**

Let the certain number of persons be x

$M_1 D_1 = M_2 D_2$

$\Rightarrow x \times 28 = (x+150) \times 21$

$\Rightarrow 28x = 21x + 3150$

$\Rightarrow 28x - 21x = 3150$

$\Rightarrow 7x = 3150$

$\therefore x = \frac{3150}{7} = 450$

23. After allowing three successive discounts of 10%, 20% and 5% on the marked price of an article. It is sold for ₹2,394. The cost price of the article is ₹2,500. If it sold at the marked price, then the profit will be:

A) ₹1,000 **B)** ₹950

C) ₹960 **D)** ₹1,060

Explanation: **Ans. : (A)**

Let the marked price of an article be ₹ x

$\Rightarrow x \times \frac{90}{100} \times \frac{80}{100} \times \frac{95}{100} = 2394$

$\Rightarrow x = \frac{2394}{0.9 \times 0.8 \times 0.95} = \frac{2394}{0.684} = 3500$

Profit $= 3500 - 2500 =$ ₹1000

24. A sum of ₹6,600 amounts to ₹8,756 in $4\frac{2}{3}$ years of x% p.a. simple interest. What will be same sum amount to if invested at $(x + 3)$% p.a. for $2\frac{1}{2}$ years, interest compounded yearly (nearest to ₹1) ?

A) ₹8,385 **B)** ₹8,066

C) ₹8,175 **D)** ₹8,458

Explanation: **Ans. : (A)**

A sum of ₹6600 amounts to ₹8756 in $\frac{14}{3}$ years at x % p.a. simple interest.

$8756 - 6600 = \frac{\left(6600 \times \frac{14}{3} \times x\right)}{100}$

$\Rightarrow 2156 = 66 \times \frac{14}{3} \times x$

$\Rightarrow 2156 = 22 \times 14 \times x$

$\Rightarrow 2156 = 308\, x$

$\therefore x = \frac{2156}{308} = 7$

New amounts for two years $\Rightarrow 6600 \times \left(\frac{110}{100}\right)^2 = 7986$

Interest for next ½ year.

$= 7986 \times \frac{10}{100} \times \frac{1}{2} = 399.3$

Total amount $= 7986 + 399.3$

$=$ ₹8385.3 ≈ ₹8385

25. Sujatha spends 18% of her monthly income on house rent. 40% of the income on groceries and 55% of the remaining on her children's education and others. If her monthly savings is ₹4,725, then her expenditure on 'education and others' is :

A) ₹5,885 **B)** ₹5,875

C) ₹5,755 **D)** ₹5,775

Explanation: **Ans. : (D)**

Let the monthly income be x

$\Rightarrow x \times \frac{100 - 18 - 40}{100} \times \frac{(100 - 55)}{100} = 4725$

$\Rightarrow x \times \frac{42}{100} \times \frac{45}{100} = 4725$

$\Rightarrow x = 2.5 \times 100 \times 100 = 25{,}000$

Expenditure on education and others

$\Rightarrow P \times \frac{42}{100} \times \frac{55}{100}$

$\Rightarrow 25{,}000 \times 0.231 = 5775$

Her expenditure on education and others = ₹5775

General Awareness

1. **Who among the following was the first Education Minister of the independent India?**
   A) Rafi Ahmed Kidwai
   B) Maulana Abul Kalam Azad
   C) Narhar Vishnu Gadgil
   D) Kshitish Chandra Neogy **Ans. : (B)**

2. **When was the first coalition government formed in India at the Centre?**
   A) 1984 **B)** 1962
   C) 1977 **D)** 1991 **Ans. : (C)**

3. **Which Indian city has been awarded the 'cleanest city' in the country in the Swachh Survekshan 2019 (SS 2019) awards?**
   A) Bhopal **B)** Raipur
   C) Jaipur **D)** Indore **Ans. : (D)**

4. **Which of the following is the SI unit of luminous intensity?**
   A) Candela **B)** Ampere
   C) Joule **D)** Lambert **Ans. : (A)**

5. **Who among the following is popularly known as 'the waterman of India'?**
   A) Bindeshwar Pathak
   B) Arunachalam Muruganantham
   C) Satyabhama Das Biju
   D) Rajendra Singh **Ans. : (D)**

6. **What type of motion do the sound waves move in while travelling through air?**
   A) Oscillating **B)** Linear
   C) Rotatory **D)** Reciprocating **Ans. : (A)**

7. **Which Schedule of the Constitution of India defines the allocation of powers and functions between the Union and the State Governments in the form of Union List, State List and Concurrent List?**
   A) Ninth **B)** Twelfth
   C) Seventh **D)** Fourteenth **Ans. : (C)**

8. **Which of the following kitchen substances can be used as an 'olfactory indicator'?**
   A) Tomato **B)** Potato
   C) Cumin **D)** Onion **Ans. : (D)**

9. **The oceanic resources beyond _____ nautical miles of the Exclusive Economic Zone belong to open ocean and no individual/country can utilise these without the concurrence of international institutions.**
   A) 100 **B)** 200
   C) 50 **D)** 150 **Ans. : (B)**

10 **'Dekhni' is a traditional dance form of:**
   A) Odisha **B)** Goa
   C) Kerala **D)** Gujarat **Ans. : (B)**

11. **Which of the following is the most unique feature of the Harappan civilisation?**
   A) Community markets **B)** Foreign trade
   C) Town planning **D)** Federal government
   Ans. : (C)

12. **From which of the following places was the 'Suposhit Maa Abhiyan' launched on 29th February 2020?**
   A) Gorakhpur **B)** Varanasi
   C) Jaipur **D)** Kota **Ans. : (D)**

13. **Which of the following is an inorganic compound?**
   A) Alcohol **B)** Glucose
   C) Maltose **D)** Water Ans. : (D)

14. **What is India's rank in the Worldwide Educating for the Future Index (WEFFI) 2019, published by The Economist Intelligence Unit?**
   A) 42nd **B)** 3rd
   C) 5th **D)** 21st **Ans. : (B)**

15 **On which of the following days did India, along with the world, celebrate 'Zero Discrimination Day' launched by UNAIDS?**
   A) 15th February 2020
   B) 1st March 2020
   C) 26th January 2020
   D) 2nd February 2020 **Ans. : (B)**

16. **As of April 2020, who among the following is the highest wicket taker in test cricket among Indian cricketers?**
   A) R Ashwin **B)** Harbhajan Singh
   C) Kapil Dev **D)** Anil Kumble
   Ans. : (D)

17 **'Ghurehi' is a traditional dance form of:**
   A) Uttar Pradesh
   B) Himachal Pradesh
   C) Arunachal Pradesh
   D) Madhya Pradesh **Ans. : (B)**

18 **What is India's overall rank in the Global Talent Competitive Index (GTCI) 2020 based on the research by INSEAD?**
   A) 83rd **B)** 65th
   C) 51st **D)** 72nd **Ans. : (D)**

19 **If the population of an animal species has declined to such a level from where it is likely to move into the endangered category in the near future if the negative factors continue to operate, then the species is termed as:**

A) vulnerable species **B)** normal species
C) endemic species **D)** rare species

Ans. : (A)

20. **Who among the following was called the 'Father of Indian Archaeology'?**

A) Bhagwan Lal Indraji
B) Edward Clive Bayley
C) Alexander Cunningham
D) TA Gopinatha Rao **Ans. : (C)**

21 **In which of the following states is the festival 'Pang Lhabsol' traditionally celebrated?**

A) Himachal Pradesh **B)** Sikkim
C) Mizoram **D)** Uttarakhand

Ans. : (C)

22. **During the Indian freedom struggle, who among the following criticised the 'moderates' for their 'politics of prayers'?**

A) Bal Gangadhar Tilak
B) Rajendra Prasad
C) Chakravarti Rajagopalachari
D) BR Ambedkar **Ans. : (B)**

23. **The Indian National Congress was established when 72 delegates from all over the country met at Bombay in December in the year _____.**

A) 1901 **B)** 1885
C) 1911 **D)** 1896 **Ans. : (B)**

24. **In which year was the Indian 'Wildlife (Protection) Act' implemented?**

A) 1972 **B)** 1965
C) 1985 **D)** 1989 **Ans. : (A)**

25 **Which type of soil is mainly found in the piedmont plains such as Duars, Chos and Terai?**

A) Alluvial soil
B) Laterite soil
C) Arid soil
D) Black soil **Ans. : (A)**

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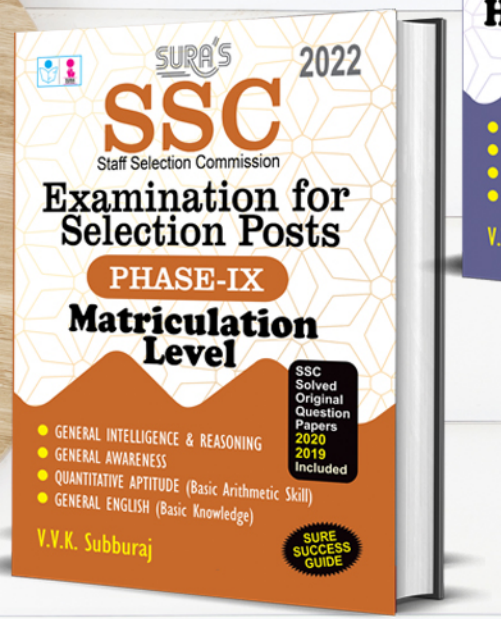

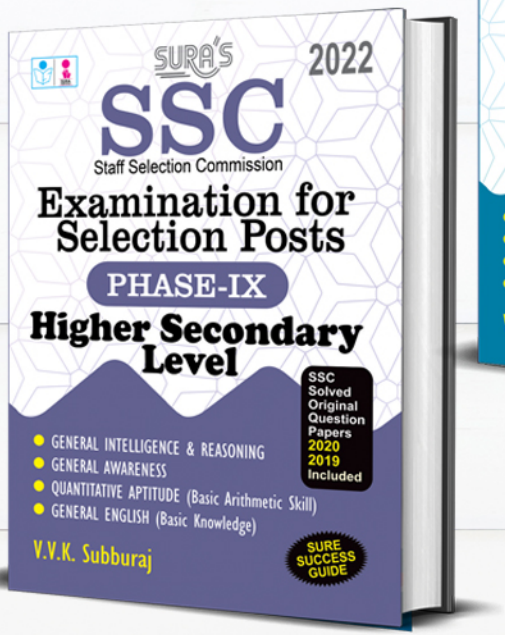

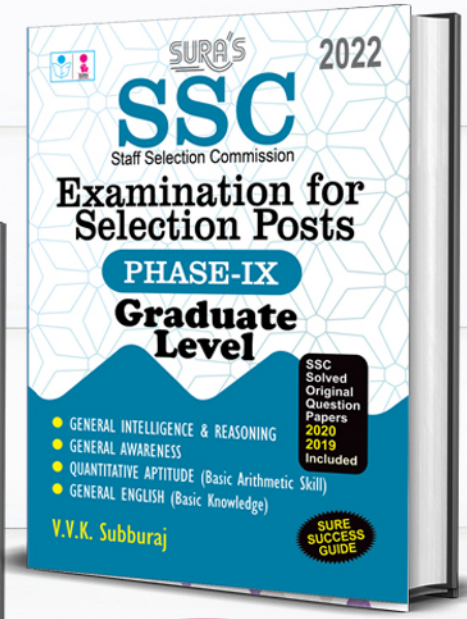

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