PREVIOUS YEAR PAPER

SSC MTS 2023 — 5 September 2023, Shift 2

SSC MTS & Havaldar · 5 September 2023 · 12:30 PM - 2:30 PM

67 of the paper's 90 questions · marks per question not printed on the response sheet

Left out of the original paper: 23 (any question that needs a figure or formatting we cannot show, has no answer in the response sheet, or could not be checked against a second copy of the paper).

Questions from the Staff Selection Commission's paper of 5 September 2023, 12:30 PM - 2:30 PM. Each question is followed by its answer, and the answer key is repeated on the last page.

Take it as a timed practice test: exambharo.com/ssc-mts/previous-year-papers/ssc-mts-2023-5-sep-shift-2/

Numerical and Mathematical Ability

1.

A right circular cone is 9.8 cm high with the radius of its base 4 cm. It is melted and recast into a right circular cone with the radius of its base 3.5 cm. Find its height (use $\pi = \frac{22}{7}$).

(a)
21.8 cm

(b)
28.1 cm

(c)
12.8 cm

(d)
18.2 cm

Answer: (c)

3.

Tushar, Megha, Punam and Richa can complete a piece of work in 10 days, 12 days, 15 days and 18 days, respectively. In how many days will the work be completed if each of them work on alternate days starting with Megha on first day, Punam on second day, Richa on third day, Tushar on fourth day and then again Megha on fifth day and so on.

(a)
12

(b)
13

(c)
10

(d)
14

Answer: (b)

5.

The average age of a family of three members (mother, father and Son) is 44 years. After the son's marriage, the average age of the family becomes 39 years. What is the age of the daughter-in-law?

(a)

24 years

(b)

25 years

(c)

23 years

(d)

22 years

Answer: (a)

6.

Using the middle points of sides of a square with an area of 36 square units, another square is made. What is the area of a new square made in square units?

(a)

24

(b)

27

(c)

18

(d)

21

Answer: (c)

7.

Find the amount of ₹75,000 for one year at the rate of 16% per annum, if the interest is compounded quarterly. (rounded off to two decimal places)

(a)

₹87,379.40

(b)

₹89,773.40

(c)

₹87,937.40

(d)

₹87,739.40

Answer: (d)

8.

How much simple interest will ₹6,000 earn in 15 months at the rate of 12% per annum?

(a)

₹900

(b)

₹600

(c)

₹750

(d)

₹800

Answer: (a)

9.

Nikita made two investments; she earns 10% on one investment and lost 20% on the second investment. If the investments were in the ratio 2 : 3, then she got a:

(a)

loss of 8%

(b)

profit of 15%

(c)

profit of 8%

(d)

loss of 15%

Answer: (a)

10.

Simplify the given expression.

$$2 \div [2 + 2 \div \{2 + 2 \div (2 + 2 \div 3)\}]$$

(a)

$\frac{11}{15}$

(b)

$\frac{19}{15}$

(c)

$\frac{17}{15}$

(d)

$\frac{13}{15}$

Answer: (a)

11.

Reena, Ritu and Sita can independently complete a piece of work in 6 hours, 9 hours and 18 hours, respectively. If they work together, then how much time (in hours) will they take to complete that pie[illegible] work?

(a)

3

(b)

5

(c)

4

(d)

2

Answer: (a)

12.

The mean proportion of a and $\frac{a}{b^2}$ is _____.

(a)

ab

(b)

$\frac{b}{a}$

(c)

$\frac{a}{b}$

(d)

$\frac{a}{2b}$

Answer: (c)

13.

A school has two sections of a class. Section A has 30 students and Section B has 20 students. The average score of the students in Section A is 85, and the average score of the students in Section B is 70. What is the overall average score of the class?

(a)

81

(b)

80

(c)

79

(d)

78

Answer: (c)

15.

The strength of a school increases and decreases every alternate year by 20%. It started with an increase in the year 2015 and the initial strength was 3000. Find the strength of the school in the year 2017 and also the percentage of increase in strength, respectively.

(a)

3456, 15.2%

(b)

4456, 14.2%

(c)

4556, 17.2%

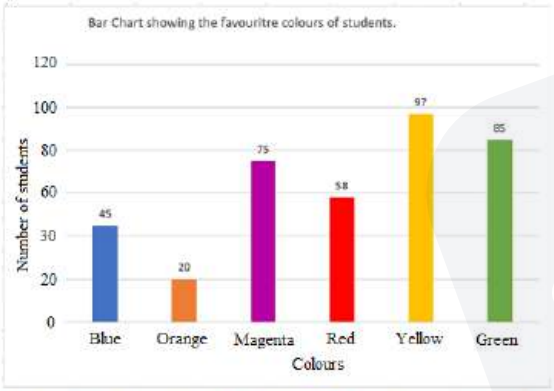
(d)

3556, 16.2%

Answer: (a)

16.

The Bar Chart below shows the favourite colours of 380 students in a class. Study the bar chart and answer the question based on it.



The total number of students whose favourite colours are blue, magenta, red and yellow is what per cent (rounded off to the nearest integer) of the total number of students in the class?

(a)

77%

(b)

69%

(c)

64%

(d)

72%

Answer: (d)

17.

The total journey is of 800 km. A car travels the first 320 km of the journey at the speed of 64 km/hr. What should be the speed of the next 480 km so that average speed will become 80 km/hr?

(a)

96 km/hr

(b)

69 km/hr

(c)

86 km/hr

(d)

89 km/hr

Answer: (a)

18.

एक आदमी साइकिल से एक स्थान तक जाने और वहां से स्कूटर से वापस आने में 8 घंटे 30 मिनट का समय लेता है है। यदि वह दोनों ओर की यात्रा साइकिल से करता है, तो उसे 10 घंटे लगते हैं। उसे स्कूटर से दोनों ओर की यात्रा करने में कितना समय लगेगा (घंटों में)?

(a)

$4\frac{1}{2}$

(b)

7

(c)

$3\frac{1}{2}$

(d)

4

Answer: (b)

19.

Divya bought six candies for a rupee. How many candies for a rupee must she sell to gain 50%?

(a)

Four

(b)

Three

(c)

One

(d)

Two

Answer: (a)

20.

एक सिपाही एक चोर को 185 m की दूरी से देखता है। चोर भागने लगता है और सिपाही उसका पीछा करता है। चोर और सिपाही क्रमशः 8 m/s और 9 m/s की चाल से दौड़ते हैं। 2 मिनट बाद उनके बीच की दूरी कितनी है?

(a)

65 m

(b)

92 m

(c)

120 m

(d)

130 m

Answer: (a)

Reasoning Ability and Problem Solving

1.

What should come in place of ? in the given series based on the English alphabetical order?

SDJ, UGL,WJN, YMP, ?

(a)

CPS

(b)

BQS

(c)

APR

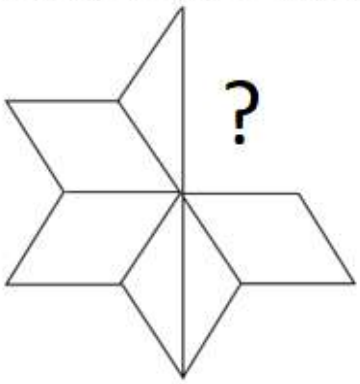
(d)

BOR

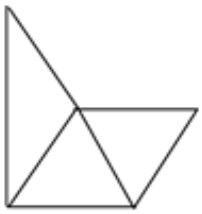
Answer: (c)

2.

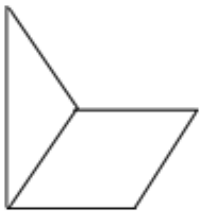
Identify the figure that completes the pattern (rotation is NOT allowed).



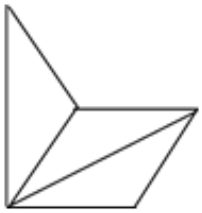
(a)



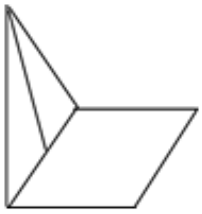
(b)



(c)



(d)



Answer: (b)

4.

Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion/s logically follow/s from the given statements.

Statements: Some walls are stone. All stones are diamonds. All diamonds are bricks.

Conclusion I: Some stones are walls.

Conclusion II: Some stones are bricks.

(a)

Neither conclusion (I) nor (II) is follow.

(b)

Both conclusions (I) and (II) are follow.

(c)

Only conclusion (II) is follow.

(d)

Only conclusion (I) is follow.

Answer: (b)

5.

Manu, Ram, Gaurav, Shivam, Umesh and Veer are sitting around a circular table facing the centre.
Manu is sitting 2nd to the left of Ram. Gaurav is sitting 3rd to the right of Ram. Shivam is sitting 3rd to the left of Manu. Umesh is sitting 2nd to the left of Shivam.
Who is sitting 2nd to the left of Manu?

(a)

Gaurav

(b)

Ram

(c)

Veer

(d)

Umesh

Answer: (c)

6.

What should come in place of ? in the given series?

31 32 35 36 39 ?

(a)
41

(b)
42

(c)
43

(d)
40

Answer: (d)

7.

What should come in place of '?' in the given series?

7 30 122 490 1962 ?

(a)
7760

(b)
7850

(c)
7872

(d)
7896

Answer: (b)

8.

What should come in place of ? in the given series based on the English alphabetical order?

FVZ, GXA, HZB, IBC, ?

(a)
IED

(b)
JDD

(c)
IEF

(d)
KDF

Answer: (b)

9.

In a certain code language, 'ETHOS' is coded as '15' and 'CHEERFUL' is coded as '24'. What is the code for 'CHIMNEY' in the given code language?

(a)

18

(b)

21

(c)

19

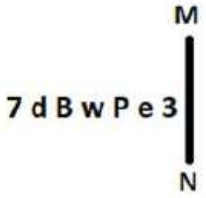
(d)

23

Answer: (b)

10.

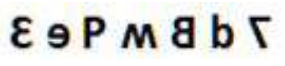
Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



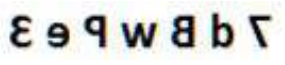
(a)



(b)



(c)



(d)



Answer: (c)

12.

In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the set in which the numbers are related in the same way as are the numbers of the following 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 /deleting /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)
12 : 144
13 : 169

(a)

9 : 80

(b)

10 : 90

(c)

15 : 225

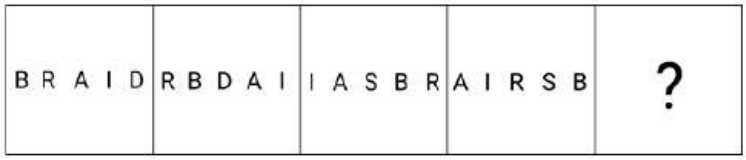
(d)

14 : 182

Answer: (c)

13.

Which figure should replace the question mark (?) if the following figure series were to be continued?



(a)



(b)



(c)



(d)



Answer: (b)

14.

What should come in place of '?' in the given series?

16 31 76 ? 616 1831 5476

(a)
217

(b)
201

(c)
207

(d)
211

Answer: (d)

17.

If G means '−'; C means '×'; D means '÷'; E means '+'; then what will come in place of the question mark (?) in the following equation?

64 D 4 G 37 E 12 C 7 = ?

(a)
71

(b)
63

(c)
36

(d)
89

Answer: (b)

18.

5 is related to 19 following a certain logic. Following the same logic, 8 is related to 31. To which of the following is 13 related to, following the same logic?

(a)
51

(b)
52

(c)
53

(d)
50

Answer: (a)

19.

If 3 May 2010 is a Monday, then what will be the day of the week on 16 December 2014?

(a)

Tuesday

(b)

Saturday

(c)

Friday

(d)

Sunday

Answer: (a)

20.

Read the given statement(s) and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statement(s).
Statements: All orchids are flowers. Some orchids are beautiful.
Conclusions:
(I) Some flowers are beautiful.
(II) All beautiful are flowers.

(a)

Only conclusion (II) is follows.

(b)

Both conclusions (I) and (II) are fo..

(c)

Neither conclusion (I) nor (II) is follows.

(d)

Only conclusion (I) is follows.

Answer: (d)

General Awareness

3. Which physiographic division of India from the following is formed of alluvial soil?

(a) The Peninsular Plateau
(b) The Himalayan Mountains
(c) The Islands
(d) The Northern Plains

Answer: (d)

4.

ऑस्कर पुरस्कार (2023) विजेता गीत 'नाटू नाटू" के संगीत निर्देशक कौन हैं?

(a)

उत्तम सिंह

(b)

ए.आर. रहमान

(c)

एम.एम. कीरावनी

(d)

अनु मलिक

Answer: (c)

5. Laterite soil develops as a result of which of the following reasons?

(a) Compaction

(b) Leaching

(c) High temperature only

(d) Sedimentation

Answer: (b)

10.

'My Country My Life' is an autobio[illegible] _____.

(a)

Jaswant Singh

(b)

Amit Shah

(c)

LK Advani

(d)

Rajnath Singh

Answer: (c)

11. As per the Census of India 2011, which state recorded a negative population growth rate?

(a) Sikkim

(b) Kerala

(c) Arunachal Pradesh

(d) Nagaland

Answer: (d)

12. In March 2023, Rajasthan became the first state in India to provide right to ___ for its people.

(a) accommodation

(b) education

(c) telecommunication

(d) health

Answer: (d)

15. Which state has the maximum number of Jute mills (as of 2022)?

(a) Tripura

(b) Uttar Pradesh

(c) Assam

(d) West Bengal

Answer: (d)

18. Born on _____, Mohandas Karamchand Gandhi whose birthday is celebrated as Gandhi Jayanti, successfully led India's non-violence movement against the British.

(a) 2 October 1868

(b) 2 October 1870

(c) 2 October 1867

(d) 2 October 1869

Answer: (d)

23. Which of the following is a white to yellowish sol[illegible]ith a weak aromatic odour purified by the process of sublimation?

(a) Titanyl

(b) Orthovanadate

(c) Anthracene

(d) Dysprosium

Answer: (c)

English Language and Comprehension

1. The following sentence has been split into four segments. Identify the segment that contains a spelling error.

Several days later, / he received a written / comeunication from the magistrate / that the case has been dropped.

(a) Several days later,

(b) he received a written

(c) comeunication from the magistrate

(d) that the case has been dropped

Answer: (c)

2. Select the option that can be used as a one-word substitute for the given group of words. A man whose wife is dead

(a) Widower
(b) Ascetic
(c) Widow
(d) Bachelor

Answer: (a)

3. Select the most appropriate option that can substitute the underlined segment in the given sentence. No sooner did he finished his examination than he left for his cricket training centre.

(a) no sooner did he finish
(b) no sooner than he finished
(c) no sooner than he did finished
(d) no sooner had he finish

Answer: (a)

4. Parts of the following sentence have been given as options. Select the option that contains an error. They will start their journey after the breakfast.

(a) will start
(b) their journey
(c) They
(d) after the breakfast

Answer: (d)

5. Select the INCORRECTLY spelt word.

(a) Wholeness
(b) Overwhelming
(c) Legandry
(d) Inclusive

Answer: (c)

6. Select the most appropriate ANTONYM of the given word. Humane

(a) Proud
(b) Kind
(c) Cruel
(d) Imperfect

Answer: (c)

7. Select the correctly spelt word.

(a) Prevenseon
(b) Prevention
(c) Previnsion
(d) Prevension

Answer: (b)

8. Parts of the given sentence have been underlined. One of them contains an error. The underlined parts are given as options with some changes. Select the option that correctly rectifies the error. He is good at playing the guitar than his brother.

(a) is better

(b) in playing

(c) guitar

(d) to

Answer: (a)

9. Select the most appropriate ANTONYM of the word given in brackets to fill in the blank. The company is looking for some _____(idle) workers who can join the organisation immediately.

(a) diligent

(b) coy

(c) callous

(d) sober

Answer: (a)

10. Select the option that can be used as a one-word substitute for the underlined group of words. He simply continued to say something in order to convey information in a calm voice.

(a) dictate

(b) teach

(c) speak

(d) spell

Answer: (c)

11. Select the most appropriate meaning of the underlined idiom. After years of rivalry, the two families decided to bury the hatchet.

(a) To continue an old quarrel

(b) To end a quarrel by never talking to each other

(c) To end a quarrel and become friendly

(d) To start a new quarrel

Answer: (c)

12. The following sentence has been split into four segments. Identify the segment that contains an error. Did / her friend / went to / school yesterday?

(a) went to

(b) school yesterday

(c) her friend

(d) Did

Answer: (a)

13. Select the most appropriate option that can substitute the underlined segment in the given sentence. The Delhi administration is seriously worried about the warning to civic health posed by the polluted waters of Yamuna.

(a) a peril to civic health
(b) the notice to civic health
(c) the plague to civic health
(d) the threat to civic health

Answer: (d)

14. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. Mohan is respected / by everyone / because he works / hardly.

(a) by everyone
(b) because he works
(c) hardly
(d) Mohan is respected

Answer: (c)

15. Select the most appropriate meaning of the given idiom. Day and night

(a) Continuously
(b) Clumsily
(c) Adversely
(d) Diligently

Answer: (a)

16. Select the most appropriate ANTONYM of the given word. Humility

(a) Shyness
(b) Timidity
(c) Arrogance
(d) Obedience

Answer: (c)

17. The following sentence has been split into four segments. Identify the segment that contains an error. They had been dancing / for an hour / when our dance teacher / had arrived.

(a) when our dance teacher
(b) They had been dancing
(c) for an hour
(d) had arrived

Answer: (d)

18. Select the most appropriate idiom to fill in the blank. Jane, please don't tell me fairy tales; I just want to know the real matter _____.

(a) in the cold

(b) in a fortnight

(c) in the long run

(d) in a nutshell

Answer: (d)

19. Select the most appropriate meaning of the underlined idiom. The shopkeeper was sly as a fox and tried to sell off the old stock.

(a) smart and clever

(b) slow

(c) suspicious

(d) in confusion or disagreement

Answer: (a)

20. Select the most appropriate option to fill in the blank. Bhanu, the security guard, asks everyone entering my building to show their _____ card.

(a) identity

(b) place

(c) self

(d) name

Answer: (a)

Passage — for questions 21–25

> In the following passage, some words have be eted. Read the passage carefully and select the most appropriate option to fill in each blank. Effective communication is about more than just exchanging information. It's about understanding the emotion and intentions (1)____ the information. As well as being able to clearly convey a message, you need to also (2)___ in a way that gains the full meaning of what's being said and makes the other person feel heard and understood. For many of us, communicating more clearly and effectively requires learning some (3)____ skills. Whether you're trying to improve communication with your spouse, kids, boss, or coworkers, learning these skills can (4)_____ your connections to others, build greater trust and respect, and (5)_____ teamwork, problem solving, and your overall social and emotional health.

21. Select the most appropriate option to fill in blank number 1.

(a) behind

(b) in front of

(c) above

(d) below

Answer: (a)

22. Select the most appropriate option to fill in blank number 2.
    (a) think
    (b) talk
    (c) listen
    (d) speak
    Answer: (c)

23. Select the most appropriate option to fill in blank number 3.
    (a) boring
    (b) trivial
    (c) wasteful
    (d) important
    Answer: (d)

24. Select the most appropriate option to fill in blank number 4.
    (a) hamper
    (b) trivialise
    (c) disturb
    (d) deepen
    Answer: (d)

25. Select the most appropriate option to fill in blank number 5.
    (a) hamper
    (b) hasten
    (c) improve
    (d) disturb
    Answer: (c)

Answer key

Answer key as marked in the Staff Selection Commission's response sheet. "—" means the sheet did not show it clearly.

Numerical and Mathematical Ability

1	**(c)**	3	**(b)**	5	**(a)**	6	**(c)**	7	**(d)**	8	**(a)**	9	**(a)**	10	**(a)**
11	**(a)**	12	**(c)**	13	**(c)**	15	**(a)**	16	**(d)**	17	**(a)**	18	**(b)**	19	**(a)**
20	**(a)**

Reasoning Ability and Problem Solving

1	**(c)**	2	**(b)**	4	**(b)**	5	**(c)**	6	**(d)**	7	**(b)**	8	**(b)**	9	**(b)**
10	**(c)**	12	**(c)**	13	**(b)**	14	**(d)**	17	**(b)**	18	**(a)**	19	**(a)**	20	**(d)**

General Awareness

3	**(d)**	4	**(c)**	5	**(b)**	10	**(c)**	11	**(d)**	12	**(d)**	15	**(d)**	18	**(d)**
23	**(c)**

English Language and Comprehension

1	**(c)**	2	**(a)**	3	**(a)**	4	**(d)**	5	**(c)**	6	**(c)**	7	**(b)**	8	**(a)**
9	**(a)**	10	**(c)**	11	**(c)**	12	**(a)**	13	**(d)**	14	**(c)**	15	**(a)**	16	**(c)**
17	**(d)**	18	**(d)**	19	**(a)**	20	**(a)**	21	**(a)**	22	**(c)**	23	**(d)**	24	**(d)**
25	**(c)**