PREVIOUS YEAR PAPER

SSC MTS 2023 — 12 September 2023, Shift 1

SSC MTS & Havaldar · 12 September 2023 · 9:00 AM - 11:00 AM

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

Left out of the original paper: 10 (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 12 September 2023, 9:00 AM - 11:00 AM. 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-2023-12-sep-shift-1/

Numerical and Mathematical Ability

1.

Find the diameter of the sphere whose volume is $381\frac{6}{7}$ m^3.

(a)
8 m

(b)
7 m

(c)
9 m

(d)
18 m

Answer: (c)

2.

Ram purchased a TV for ₹65,500 and sold it for ₹89,080. What is the percentage profit he made on the TV?

(a)
34%

(b)
36%

(c)
42%

(d)
40%

Answer: (b)

3.

A is twice as efficient as B at completing a task, and together they can finish the task in 20 days. How many days would A alone take to complete the task?

(a)

34 days

(b)

30 days

(c)

28days

(d)

32 days

Answer: (b)

6.

The HCF of two numbers is 12. Which of the following can never be their LCM?

(a)

24

(b)

74

(c)

48

(d)

60

Answer: (b)

7.

Find the value of $\frac{9(3-5)-5 \text{ of } 4\div 10}{-3\times 5-2\times 4\div 2}$:

(a)

$\frac{20}{19}$

(b)

$\frac{18}{19}$

(c)

$\frac{19}{20}$

(d)

$\frac{13}{14}$

Answer: (a)

8.

A thief is spotted by a policeman from a distance of 600 m. The thief starts running at a speed of 20 km/h and the policeman chases him running at a speed of 25 km/h. Find the distance between them after 6 minutes (in metres).

(a)

300

(b)

200

(c)

50

(d)

100

Answer: (d)

9.

The simple interest on a sum of money is four times the principal. The rate per cent per annum and time in years are equal. Find the rate per cent per annum.

(a)

10%

(b)

12%

(c)

15%

(d)

20%

Answer: (d)

10.

The falling height of an object is directly proportional to the square of the time. An object falls 80 cm in 4 seconds. Then in 8 seconds, from how much height (in cm) will the object fall?

(a)

420

(b)

320

(c)

480

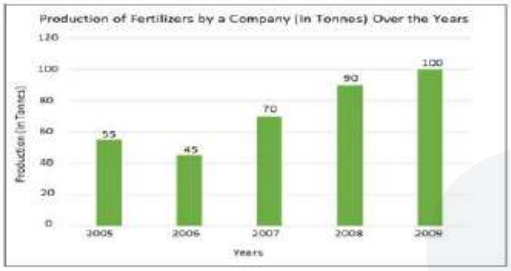
(d)

360

Answer: (b)

11.

The bar chart below shows the production of fertilizers by a company (in tonnes) over the years. Study the bar chart and answer the question based on it.



What was the percentage increase (rounded off to the nearest integer) in t' oduction of fertilizers in 2009 compared to that in 2006?

(a)

124%

(b)

118%

(c)

122%

(d)

120%

Answer: (c)

12.

The average age of the boys in the class was 16 years. When 4 boys whose average age was 13 years are admitted to the class, the average age of the class was reduced by 6 months. How many boys were there initially in the class?

(a)

22

(b)

20

(c)

18

(d)

25

Answer: (b)

13.

If a hollow sphere of an external and internal diameters of 6 cm and 4 cm, respectively, is melted into a cone of base diameter 8 cm, then the height of the cone is:

(a)

$4\frac{3}{4}\text{cm}$

(b)

$3\frac{1}{4}\text{cm}$

(c)

$5\frac{1}{4}\text{ cm}$

(d)

$2\frac{3}{4}\text{cm}$

Answer: (a)

14. The monthly income of a person was ₹27,000 and his monthly expenditure was ₹18,000. In the next year, his income increased by 28% and his expenditure increased by 14%. Find the percentage increase in his savings.

(a) 51.5%

(b) 61.5%

(c) 56%

(d) 50.5%

Answer: (c)

15.

Two trains having the same speed are running in opposite directions. If the length of each train is 120 metres and they cross each other in 8 seconds, then, what is the speed of each train (in km/h)?

(a)

54

(b)

60

(c)

45

(d)

50

Answer: (a)

16.

The sum of the two numbers is the same as nine times their difference. The ratio of the numbers is:

(a)

5 : 4

(b)

3 : 4

(c)

9 : 5

(d)

3 : 7

Answer: (a)

17.

In a school, the average height of the students of the tenth standard is 100 cm. The average height of boys is 118 cm, whereas the average height of girls is 95 cm. What is the number of girls in the class if there are 20 boys?

(a)

72

(b)

63

(c)

54

(d)

36

Answer: (a)

18.

The following table gives the annual expenditure of five families during the last 5 years (in ₹ thousand). Study the table and answer the question that follows.

Year→ Family ↓	2017	2018	2019	2020	2021
F_1	35	50	55	60	45
F_2	45	35	60	55	40
F_3	53	40	45	65	50
F_4	40	30	35	50	45
F_5	35	45	55	50	45

In which year did the family F_4 have the annual expenditure equal to the average expenditure of family F_4 from 2017 to 2021?

(a)

2017

(b)

2021

(c)

2019

(d)

2020

Answer: (a)

20.

Hema invested ₹1,728 at the rate of compound interest (Compounded ar y) for 3 years. She got ₹4,096 after the specified period. Find the rate of interest per annum.

(a)

$33\frac{1}{2}\%$

(b)

$30\frac{1}{2}\%$

(c)

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

(d)

$30\frac{1}{3}\%$

Answer: (c)

Reasoning Ability and Problem Solving

1.

If 12th Dec 2009 is a Saturday, then what will be the day of the week on 16th Dec 2014?

(a)

Thursday

(b)

Friday

(c)

Wednesday

(d)

Tuesday

Answer: (d)

2.

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

10 59 353 ? 12701 76205 457229

(a)

2149

(b)

2247

(c)

2073

(d)

2117

Answer: (d)

3.

In a certain code language, 'DOMINATE' is coded as 'TANIMODE' and 'FAITHFUL' is coded as 'UFHTIAFL'. What is the code for 'HIGHWAY' in the given code language?

(a)

AWHGIHY

(b)

IGHWAYH

(c)

AYWHGIH

(d)

YAWHGIH

Answer: (a)

4.

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

MFX, JCU, GZR, DWO, ?

(a)

YSM

(b)

ATL

(c)

ZRM

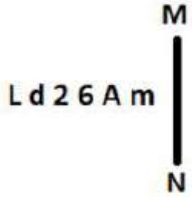
(d)

ZSL

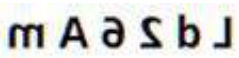
Answer: (b)

5.

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



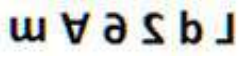
(a)



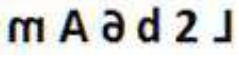
(b)



(c)



(d)



Answer: (a)

6.

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

BLS, FJQ, JHO, NFM, ?

(a)

QEJ

(b)

SCK

(c)

RDK

(d)

QCI

Answer: (c)

7.

18 is related to 54 following a certain logic. Following the same logic, 21 is related to 63. To which of the following is 72 related to, following the same logic?

(a)

222

(b)

220

(c)

218

(d)

216

Answer: (d)

8.

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 cups are books. All books are shirts.
Conclusions:
(I) Some cups are not shirts.
(II) Some shirts are cups.

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

(b)
Both conclusions (I) and (II) are follows.

(c)
Only conclusion (II) is follows.

(d)
Only conclusion (I) is follows.

Answer: (c)

9.

Six people, Vijay, Harsh, Golu, Satish, Karan and Awadhi are sitting in a straight line, facing north.
Vijay sits 3rd from the right end. Harsh sits 3rd to the left of Vijay. Satish is an immediate neighbour of Harsh. Golu sits 3rd to the right of Satish. Awadhi is an immediate neighbour of Golu.
Who sits 2nd to the right of Vijay?

(a)
Golu

(b)
Awadhi

(c)
Karan

(d)
Satish

Answer: (b)

11.

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 lipsticks are foundation. All foundation is brown. Some brown are highlighters.

Conclusion I: Some lipsticks are brown.

Conclusion II: All foundation are highlighters.

(a)

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

(b)

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

(c)

Only conclusion (II) is follow.

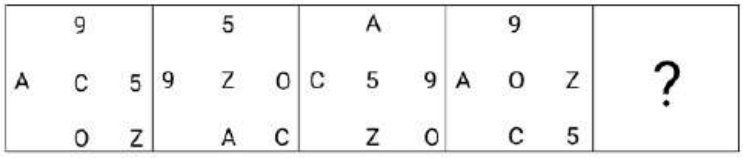
(d)

Only conclusion (I) is follow.

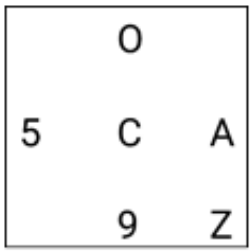
Answer: (d)

12.

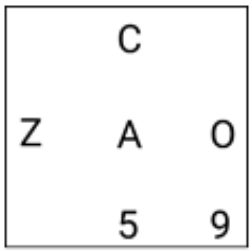
Which figure should replace the question mark (?) if the following figure series were to be continued?



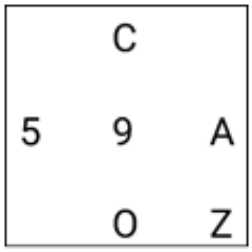
(a)



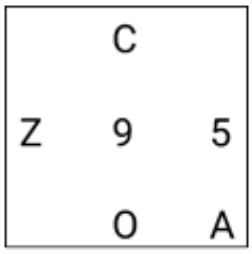
(b)



(c)



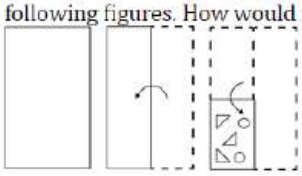
(d)



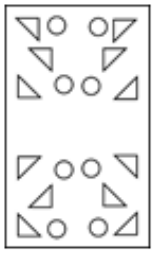
Answer: (c)

13.

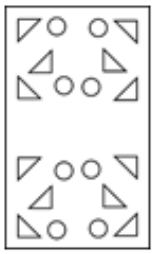
The sequence of folding a piece of paper and the manner in which the folded paper is cut is shown in the following figures. How would this paper look when unfolded?



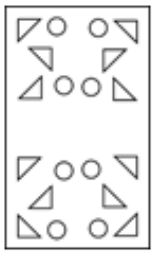
(a)



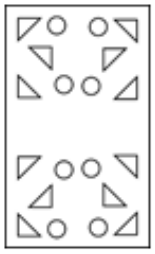
(b)



(c)



(d)



Answer: (d)

16.

In a certain code language, 'DRAW' is coded as '7932' and 'WEAR' is coded as '4729'. What is the code for 'E' in the given code language?

(a)

9

(b)

2

(c)

7

(d)

4

Answer: (d)

17.

What will come in the place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

$90 \div 4 + 75 - 93 \times 3 = ?$

(a)

316

(b)

279

(c)

406

(d)

165

Answer: (a)

18.

Find out the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.

ZA_J B_BK DAB_ _ABM HA_N

(a)

BALPC

(b)

FCBPL

(c)

BALFB

(d)

CHBNK

Answer: (c)

19.

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

51 53 57 59 ? 65 69

(a)
63

(b)
64

(c)
62

(d)
65

Answer: (a)

20.

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

18 E 27 D 3 A 2 G 5 = ?

(a)
29

(b)
17

(c)
43

(d)
31

Answer: (b)

General Awareness

2. How long can a person remain a minister without being a member of either House of the State Legislature?

(a) 15 days
(b) 6 months
(c) 1 year
(d) 2 months

Answer: (b)

3. The world's largest camel fair is held in which of the following cities?

(a) Bikaner
(b) Pushkar
(c) Barmer
(d) Udaipur

Answer: (b)

4. Who among the following Indian musicians is the inventor of Mohan Veena?

(a) Totaram Sharma
(b) Braj Bhushan Kabra
(c) Pandit Vishwa Mohan Bhatt
(d) Sandeep Das

Answer: (c)

6. Which of the following musicians of medieval India is referred to as 'Tuti-e-Hind' and is also regarded as the father of qawwali?

(a) Miyan Tansen
(b) Amir Khusrau
(c) Purandara Dasa
(d) Swami Haridas

Answer: (b)

7. The blue green alga Anabaena lives in the leaves of Azolla, a freshwater fern, forming which of the following relationships?

(a) Autotrophic
(b) Symbiotic
(c) Parasitic
(d) Saprophytic

Answer: (b)

8. Who was famous for publishing a formula in 1827 at shows the mathematical relationship between current, resistance and voltage?

(a) William Gilbert
(b) William Watson
(c) Gustav Kirchhoff
(d) Georg Simon Ohm

Answer: (d)

9. Identify the correct pair (name of shifting agriculture and related state) from the following.

(a) Bewar – Madhya Pradesh
(b) Kuruwa – Punjab
(c) Podu – Tamil Nadu
(d) Bringa – Uttar Pradesh

Answer: (a)

10. The Balti dance of _____ is distinct as it has its own costume, music and songs in the Balti language. The dance is only performed on rare occasions, such as feasts or celebrations.

(a) Uttarakhand
(b) Ladakh
(c) Kashmir
(d) Himachal Pradesh

Answer: (b)

11. The Fundamental Duties of Indian Citizens were adopted from the Constitution of which country?
    (a) Soviet Union
    (b) Japan
    (c) United Kingdom
    (d) United States of America
    Answer: (a)

12. Which state hosted the 36th National Games of India?
    (a) Maharashtra
    (b) Karnataka
    (c) Gujarat
    (d) Punjab
    Answer: (c)

13. Jet streams are a particular form of:
    (a) weather fronts
    (b) atmospheric pollution
    (c) geostrophic winds
    (d) periodic water motion
    Answer: (c)

14. According to the Global Multidimensional Poverty ex Report 2022, a total of 415 million people exited multidimensional poverty in India in th st _____.
    (a) 15 years
    (b) 5 years
    (c) 10 years
    (d) 20 years
    Answer: (a)

15. What is the primary function of a commercial bank?
    (a) Issuing currency notes and coins
    (b) Conducting monetary policy
    (c) Granting loans and accepting deposits
    (d) Regulating the money supply
    Answer: (c)

16. Which of the following is an example of revenue receipt in the government budget?
    (a) Sale of government-owned land
    (b) Repayment of a loan by a state-owned company
    (c) Dividends received from a state-owned enterprise
    (d) Borrowing money from international organisations
    Answer: (c)

17. Birsa Munda Hockey Stadium was built in which state?

(a) Gujarat

(b) Maharashtra

(c) Jharkhand

(d) Odisha

Answer: (d)

18. Who received the title Pandita from the faculty of Calcutta University for her knowledge of Sanskrit?

(a) Rokaya Sakhawat Hossain

(b) Ramabai Sarasvati

(c) Sarojini Naidu

(d) Rash Sundari Devi

Answer: (b)

19. Rani Machaiah from Karnataka was awarded the Padma Shri for her contribution to popularising _____ in and outside Karnataka.

(a) Kamsale Nritya

(b) Kunitha

(c) Karadi Majalu

(d) Ummathat

Answer: (d)

20.

Shri Domar Singh Kunvar from Chhattisgarh was honoured w _ the year 2023 for his contribution to 'Natya Nach'.

(a)

Padma Bhushan

(b)

Bharat Ratna

(c)

Padma Shri

(d)

Padma Vibhushan

Answer: (c)

21. Which of the following hills are located in Purvachal?

(a) Mizo hills and Naga hills

(b) Shevroy hills and Javadi hills

(c) Khasi and Jaintia hills

(d) Anai Mudi and Doda Betta

Answer: (a)

22. The mausoleum of the Taj Mahal was designed by _____.
    (a) Bhaktiyar Lahori
    (b) Mohammad Isha
    (c) Shah Jahan
    (d) Ustad Ahmad Lahori
    Answer: (d)

23. What was the Swadeshi Movement called in the state of Andhra Pradesh?
    (a) Gadar Movement
    (b) Quit India Movement
    (c) Khilafat Movement
    (d) Vande Mataram Movement
    Answer: (d)

24. 'Midnight's Children' is a novel by which of the following writers?
    (a) Jane Austen
    (b) Vikram Seth
    (c) Chetan Bhagat
    (d) Salman Rushdie
    Answer: (d)

25. Which of the following countries hosted the IBA W en's World Boxing Championships for the third time in March 2023?
    (a) Hungary
    (b) United Kingdom
    (c) Malaysia
    (d) India
    Answer: (d)

English Language and Comprehension

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

Castles in the air
    (a) Unrealistic and impossible plan
    (b) Unexpected change in the climate
    (c) Realistic and possible plan
    (d) Strong hope to get success
    Answer: (a)

2. Four words of the following sentence have been underlined and given as options. Select the option that contains a spelling error. Ongoing climate change, caused by the acumulation of greenhouse gases in the atmosphere, is happening on a timescale of decades to centuries and is driving environmental changes worldwide.

(a) environmental
(b) atmosphere
(c) acumulation
(d) decades

Answer: (c)

3. Select the most appropriate synonym of the given word. Laconic

(a) Reasonable
(b) Fanciful
(c) Concise
(d) Certain

Answer: (c)

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

Make-up was _____ she hardly wore.

(a) anything
(b) something
(c) anybody
(d) someone

Answer: (b)

6. Select the option that can be used as a one-word substitute for the given group of words. Pause indecisively

(a) Hibernate
(b) Hesitate
(c) Hoist
(d) Hobble

Answer: (b)

7. The following sentence has been split into four segments. Identify the segment that contains a grammatical error and select the option which rectifies that error.

The SNAP-10 A / was launched on 3 April 1965 / on a Atlas-Agena D rocket / from Vandenberg Air Force Base.

(a) at Vandenberg Air Force Base.
(b) A SNAP-10 A
(c) was launch on 3 April 1965
(d) on an Atlas-Agena D rocket

Answer: (d)

8. Select the correct spelling of the underlined word in the following sentence.

He dispised the taste of black coffee.

(a) despisid
(b) disspised
(c) despised
(d) despeded

Answer: (c)

9. 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.
This car is lesser expensive than the one I had come to buy.

(a) for
(b) came
(c) ones
(d) less

Answer: (d)

10. Select the appropriate meaning of the given idiom.

Grasping at straws

(a) Futile attempts to win
(b) Desperate attempt to succeed
(c) Holding the last strands of straw
(d) Wasting time enjoying and relaxing

Answer: (b)

11. Select the most appropriate idiom to fill in the blank. She told me, _____, that she was going to live in New York.

(a) blue blood
(b) black and blue
(c) out of the blue
(d) once in a blue moon

Answer: (c)

12. Select the most appropriate synonym of the bracketed word in the following sentence to fill in the blank. The medical procedure was successful, but the patient experienced some minor _____(troubles) during recovery.

(a) applications
(b) complications
(c) transformations
(d) obligations

Answer: (b)

13. The following sentence has been divided into four parts. Identify the part that contains an error.
(A) It is said /
(B) that fortune /
(C) favour the /
(D) brave.

(a) B
(b) C
(c) A
(d) D

Answer: (b)

14. Select the most appropriate option that can substitute the underlined segment in the given sentence. Teenage is that phase of life when you are proposed to the world outside.

(a) you are exposed to
(b) you are excited with
(c) one are proposed to
(d) you are interrupted to

Answer: (a)

15. Select the INCORRECTLY spelt word.

(a) Sergeant
(b) Playwright
(c) Experiance
(d) Leisure

Answer: (c)

16. Select the most appropriate option to fill in the blank. Ravi has little in _____ with his friend, Senthil.

(a) common
(b) contention
(c) formal
(d) normal

Answer: (a)

17. Select the most appropriate ANTONYM of the given word. Dense

(a) Sparse
(b) Opaque
(c) Closed
(d) Thick

Answer: (a)

18. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

The fight of the cobra and the mongoose / is a classic drama often seen in India, / and the outcome was largely the same.

(a) The fight of the cobra and the mongoose
(b) No error
(c) is a classic drama often seen in India
(d) and the outcome was largely the same

Answer: (d)

19. The following sentence has been split into four segments. Identify the segment that contains a grammatical error. The little child / wrote his name / quick / on the wall.

(a) quick
(b) wrote his name
(c) on the wall
(d) The little child

Answer: (a)

Passage — for questions 21–25

> In the following passage, some words have been delet[illegible] Read the passage carefully and select the most appropriate option to fill in each blank. Health is [illegible] most valuable of all earthly possessions. Without it all the rest are worth (1)_____. To enjoy [illegible]od health we should refrain from excess in eating. We should eat moderately and devour whate[illegible] (2)_____ get. When you sit among many for a dinner, do not reach your hand out (3)_____ [illegible]all. [illegible].tle food is sufficient for us. Sound sleep comes of a light stomach. Such a man rises (4)_____ [illegible] norning and is at ease with himself. So to (5)_____ good health we should eat moderately, for a man who does not overeat enjoys sound sleep and rises early completely refreshed.

21. Select the most appropriate option to fill in blank no. 1.

(a) it
(b) nothing
(c) everything
(d) all

Answer: (b)

22. Select the most appropriate option to fill in blank no. 2.

(a) us
(b) he
(c) we
(d) it

Answer: (c)

23. Select the most appropriate option to fill in blank no. 3.
    (a) first
    (b) second
    (c) last
    (d) end
    Answer: (a)

24. Select the most appropriate option to fill in blank no. 4.
    (a) late
    (b) early
    (c) active
    (d) idle
    Answer: (b)

25. Select the most appropriate option to fill in blank no. 5.
    (a) lose
    (b) benefit
    (c) reward
    (d) enjoy
    Answer: (d)

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)**	2	**(b)**	3	**(b)**	6	**(b)**	7	**(a)**	8	**(d)**
9	**(d)**	10	**(b)**	11	**(c)**	12	**(b)**	13	**(a)**	14	**(c)**
15	**(a)**	16	**(a)**	17	**(a)**	18	**(a)**	20	**(c)**		

Reasoning Ability and Problem Solving

1	**(d)**	2	**(d)**	3	**(a)**	4	**(b)**	5	**(a)**	6	**(c)**
7	**(d)**	8	**(c)**	9	**(b)**	11	**(d)**	12	**(c)**	13	**(d)**
16	**(d)**	17	**(a)**	18	**(c)**	19	**(a)**	20	**(b)**		

General Awareness

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

English Language and Comprehension

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