PREVIOUS YEAR PAPER

SSC MTS 2023 — 4 September 2023, Shift 1

SSC MTS & Havaldar · 4 September 2023 · 9:00 AM - 11:00 AM

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

Left out of the original paper: 7 (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 4 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-2023-4-sep-shift-1/

Numerical and Mathematical Ability

1.

Find the area of an equilateral triangle, each of whose sides measures 12 cm.

(a)

$36\sqrt{3}$ cm^2

(b)

$3\sqrt{3}$ cm^2

(c)

$\frac{36}{\sqrt{3}}$ cm^2

(d)

$\frac{72}{\sqrt{3}}$ cm^2

Answer: (a)

2.

The radius and the height of a right circular cone are in the ratio 3 : 4. If its volume is 301.44 m^3, find the slant height (use $\pi = 3.14$).

(a)

5 cm

(b)

20 cm

(c)

10 cm

(d)

15 cm

Answer: (c)

3.

At what rate of interest per annum, compounded annually, will an amount of ₹8,000 yield a compound interest of ₹904.2 in 2 years?

(a)
6%
(b)
8%
(c)
10%
(d)
5.5%

Answer: (d)

4.

The average of the first 10 prime number is:

(a)
12.9
(b)
9.7
(c)
11.9
(d)
13.4

Answer: (a)

7.

The average of the first 69 natural numbers is:

(a)
34
(b)
35
(c)
33
(d)
36

Answer: (b)

9.

A mixture contains milk and water in the ratio 9 : 7. If it contains 4 litres more milk than water, then find the quantity of milk (in litres) in the mixture.

(a)

18

(b)

15

(c)

21

(d)

14

Answer: (a)

10.

Juli and Rahul can simultaneously finish the work of painting a room in 12 days. If Juli alone can paint the room in 20 days, in how many days can Rahul alone complete the same work of painting the room?

(a)

30

(b)

25

(c)

40

(d)

35

Answer: (a)

11.

The mean proportion of $(3+2\sqrt{2})^2$ and $(3-2\sqrt{2})^2$ is:

(a)

$3+2\sqrt{2}$

(b)

5

(c)

$2\sqrt{2}$

(d)

1

Answer: (d)

12.

Three measuring tapes are 64 cm, 72 cm and 96 cm, respectively. What is the least length that can be measured by any of the tapes exactly (in cm)?

(a)

575

(b)

570

(c)

576

(d)

525

Answer: (c)

13.

A work can be completed by P and Q working separately in 12 and 18 days, respectively. But they work on alternate days beginning with P. How many days will it take to complete the work?

(a)

$14\frac{1}{12}$

(b)

15

(c)

$14\frac{1}{3}$

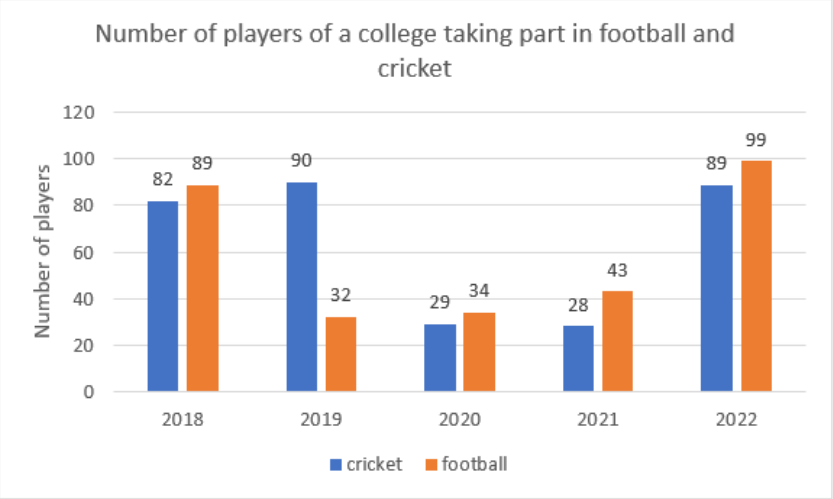
(d)

$14\frac{1}{4}$

Answer: (c)

14.

The bar graph shows the number of players of a college taking part in two games for five years:



What is the total number of players playing cricket and football in 2019 and 2020?

(a)

190

(b)

195

(c)

185

(d)

180

Answer: (c)

15.

P and Q start from point A to point B, at the same time at speeds of 32 km/h and 40 km/h, respectively. If in covering the journey P takes 15 minutes longer than Q, the total distance AB of the journey is:

(a)

36 km

(b)

32 km

(c)

40 km

(d)

44 km

Answer: (c)

16.

Simplify

$$108 \div 36 \times 4 + 2.5 \times 4 \div 0.5 - 10$$

(a)

10

(b)

22

(c)

21

(d)

20

Answer: (b)

17.

A car dealer borrows₹20,000 from a bank for a period of 2 years at a simple interest rate of 8% per annum. If he repays the loan in full at the end of the 2-year period, how much will he have to pay?

(a)

₹3,600

(b)

₹23,600

(c)

₹23,200

(d)

₹3,200

Answer: (c)

18.

A lady invests ₹27,600 in three shares in the ratio 3 : 4 : 5 which pay dividends of 20%, 15% and 5% on her investment for that year, respectively. What is the total dividend?

(a)

₹3,852

(b)

₹3,335

(c)

₹3,125

(d)

₹2,535

Answer: (b)

19.

Two trains of length 200 m and 325 m long are running on parallel rail tracks at speeds of 78 km/h and 60 km/h, respectively. In how much time (in seconds) the faster train cross the slower one if they are running in the same direction?

(a)

105

(b)

100

(c)

115

(d)

110

Answer: (a)

20.

A college student spends 75% of his pocket money. When the pocket money increased by 20%, the expenditure also increased by 15%. What is the increase in the savings?

(a)

25%

(b)

55%

(c)

35%

(d)

45%

Answer: (c)

Reasoning Ability and Problem Solving

1.

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

4 22 112 562 2812 ?

(a)

13423

(b)

13948

(c)

14062

(d)

13684

Answer: (c)

2.

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

16 110 ? 5374 37616 263310 1843168

(a)
792

(b)
800

(c)
804

(d)
768

Answer: (d)

4.

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)
8 : 50
4 : 30

(a)
20 : 40

(b)
6 : 20

(c)
7 : 45

(d)
5 : 8

Answer: (c)

5.

What will come in the place of '?' in the following equation, if '+' and '–' are interchanged and '×' and '÷' are interchanged?
$729 \times 81 - 96 \div 13 + 8 = ?$

(a)
1

(b)
11

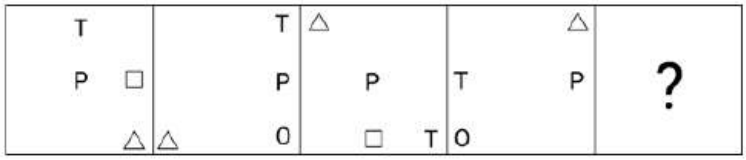
(c)
8

(d)
9

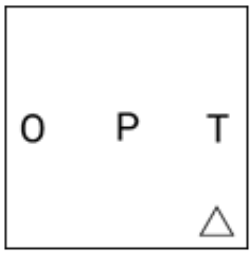
Answer: (a)

6.

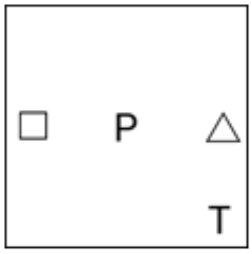
Which figure should replace the question mark (?) if the following figure series were to be continued?



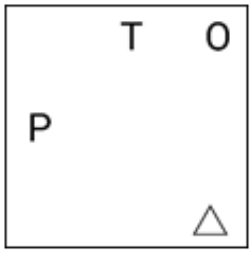
(a)



(b)



(c)



(d)



Answer: (d)

7.

In a certain code language, 'COIN' is coded as '9735' and 'ONCE' is coded as '3459'. What is the code for 'E' in the given code language?

(a)

5

(b)

3

(c)

4

(d)

9

Answer: (c)

8.

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: All computers are laptops. Some laptops are heavy. All heavy is wood.

Conclusion I: All laptops are computers.

Conclusion II: Some heavy are laptops.

(a)

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

(b)

Only conclusion (I) is follow.

(c)

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

(d)

Only conclusion (II) is follow.

Answer: (d)

9. Six people, Karan, Dilip, Rahul, Prabhat, Alok and Sandeep are sitting in a straight line, facing north. Karan sits 2nd from the left end. Dilip sits 3rd to the right of Karan. Rahul sits 2nd to the left of Dilip. Prabhat sits 3rd to the right of Rahul. Sandeep sits 2nd to the left of Prabhat. Who sits 2nd to the right of Karan?

(a) Rahul

(b) Sandeep

(c) Prabhat

(d) Alok

Answer: (b)

10.

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

MAG, QXE, UUC, YRA, ?

(a)
CNX
(b)
COY
(c)
DNY
(d)
DMX

Answer: (b)

12.

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

5 15 35 75 155 ?

(a)
315
(b)
305
(c)
325
(d)
335

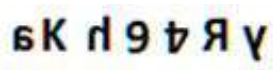
Answer: (a)

13.

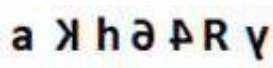
Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



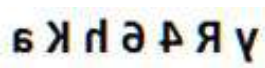
(a)



(b)



(c)



(d)



Answer: (c)

15.

What should come in place of the question mark (?) in the given series base the English alphabetical order?

EMT, ILX, MKB, QJF, ?

(a)

UHL

(b)

VJL

(c)

UIJ

(d)

VHK

Answer: (c)

16.

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

NBE, JXA, FTW, BPS, ?

(a)

XMP

(b)

YMN

(c)

XLO

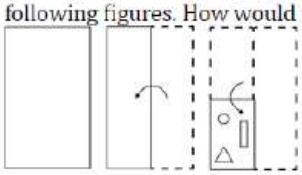
(d)

YNP

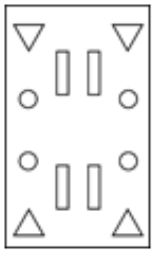
Answer: (c)

17.

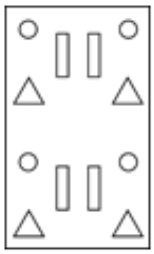
The sequence of folding a piece of paper and the manner in which the folded paper is cut is shown in the following figures. How would this paper look when unfolded?



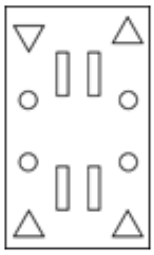
(a)



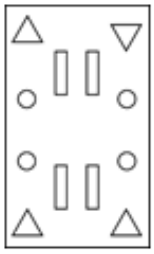
(b)



(c)



(d)



Answer: (a)

18.

In a certain code language, 'BLANCH 'is coded as '36' and 'ARAB' is coded as '24'. What is the code for 'CORRECT' in the given code language?

(a)

41

(b)

39

(c)

42

(d)

40

Answer: (c)

19.

DKJE is related to IPOJ in a certain way based on the English alphabetical order. In the same way, GTSM is related to LYXR. To which of the following is RBNF related to, following the same logic?

(a)

WGSK

(b)

XERJ

(c)

WEQK

(d)

VGQI

Answer: (a)

20.

The position of how many letters will remain unchanged if each of the letter in the word 'BACHELOR' is arranged in alphabetical order?

(a)

One

(b)

Five

(c)

Four

(d)

Two

Answer: (c)

General Awareness

1. The Padma Shri awardee Guru K Kalyanasundaram Pillai, the man who is keeping an ancient tradition alive,was awarded the Padma Shri 2023 for his contribution to the field of _____.

(a) Kuchipudi
(b) Kathakali
(c) Bharatanatyam
(d) Mohiniyattam

Answer: (c)

2. Who appoints the State Election Commissioner?

(a) Governor
(b) Speaker
(c) Chief Minister
(d) Advocate General

Answer: (a)

3. In which river has the National Waterways-2 (NW-2) been developed in India?

(a) Brahmaputra
(b) Krishna
(c) Ganga
(d) Narmada

Answer: (a)

4. In India, Micro Finance Institutions primarily target which segment of the population?

(a) Non-resident Indians (NRIs)
(b) Large corporations
(c) Low-income individuals and small businesses
(d) High-income individuals

Answer: (c)

5. What is the name of the scheme launched by Himachal Pradesh government for dairy farmers?

(a) Dhugdh Dhan
(b) Pashu Poshan
(c) Dhoodh aur Dhan
(d) Sanjeevani

Answer: (d)

6. Which of the following States will host the 37th National Games?

(a) Odisha
(b) Andhra Pradesh
(c) Goa
(d) Karnataka

Answer: (c)

7. Kalidas Samman is a prestigious arts award presented annually by the government of _____.

(a) Madhya Pradesh

(b) Rajasthan

(c) Kerala

(d) Karnataka

Answer: (a)

8. How many countries will participate in ICC 2023 ODI Cricket World Cup?

(a) 12

(b) 10

(c) 6

(d) 8

Answer: (b)

9.

Whose autobiography is titled 'Born Again on the Mountain: a story of losing everything and finding it back'?

(a)

Bachendri Pal

(b)

Dicky Dolma

(c)

Santosh Yadav

(d)

Arunima Sinha

Answer: (d)

10. Which of the following is NOT a characteristic of money?

(a) Portability

(b) Perishability

(c) Divisibility

(d) Durability

Answer: (b)

11.

Among the given options, which one causes an echo?

(a)

When sound is reflected

(b)

When sound waves travel through a solid medium

(c)

When sound waves travel through a liquid medium

(d)

When sound waves travel through a vacuum

Answer: (a)

12. _____ has two traditions: one is the sankeertana (which is the devotional aspect) and the other is the raasa.

(a) Odissi

(b) Sattriya

(c) Manipuri dance

(d) Chhau

Answer: (c)

13. Which of the following lakes is a saltwater lake ?

(a) Superior

(b) Chilika

(c) Malawi

(d) Titicaca

Answer: (b)

14.

'Wings of Fire' is an autobiography of whom?

(a)

Ratan Tata

(b)

Indira Gandhi

(c)

Subhash Chandra Bose

(d)

APJ Abdul Kalam

Answer: (d)

15. The _____ of the Indian Constitution defines the Fundamental Duties of Indian Citizens.

(a) Article 51A
(b) Article 41B
(c) Article 49C
(d) Article 21A

Answer: (a)

16.

Dr. Bhupendra Kumar Hazarika won the Bharat Ratna award in the field of _____ in 2019.

(a)
Literature
(b)
Music
(c)
Games
(d)
Science

Answer: (b)

17. What type of vegetation is represented by Sundarbans, the world's largest delta located in the Bay of Bengal?

(a) Tropical Thorn Forests
(b) Montane Forests
(c) Mangrove Forests
(d) Semi Evergreen Forests

Answer: (c)

18. The Mumbai High region in Arabian Sea is known for mining _____.

(a) uranium
(b) coal
(c) copper
(d) mineral oil

Answer: (d)

19. In which of the following years was the Child Marriage Restraint Act passed?

(a) 1949
(b) 1939
(c) 1950
(d) 1929

Answer: (d)

20. According to the Census of India 2011, identify the correct pair of State and Union Territories which recorded the highest literacy rate.

(a) Mizoram and Lakshadweep

(b) Kerala and Chandigarh

(c) Goa and Puducherry

(d) Kerala and Lakshadweep

Answer: (d)

21. The sal tree assumes great significance in a number of tribal communities scattered across eastern India. For instance, _____ festival is celebrated in honour of the tree in Jharkhand.

(a) Karma

(b) Tusu Parab

(c) Sarhul

(d) Sohrai

Answer: (c)

22. Geto Sora won the Arena Junior (Boys) International Badminton Championship. He belongs to which state?

(a) Arunachal Pradesh

(b) Mizoram

(c) Sikkim

(d) Meghalaya

Answer: (a)

23.

Identify the Chhau dancer from the following, who received the Natak Akademi Award-2021 (given in February 2023)?

(a)

Bharathi Vithal

(b)

Kumkum Dhar

(c)

Bhuvan Kumar

(d)

Rabindra Atibudhi

Answer: (c)

24. Which of the following Indian musicians was referred to as 'Ghazal King'?

(a) Ghulam Ali

(b) Jagjit Singh

(c) Pankaj Udhas

(d) Mehdi Hassan

Answer: (b)

25. On 8th April 1929, who among the following two revolutionists threw a bomb in the Central Legislative Assembly?

(a) Bhagat Singh and Rajguru
(b) Bhagat Singh and Ram Prasad Bismil
(c) Bhagat Singh and Batukeshwar Dutt
(d) Bhagat Singh and Sukhdev

Answer: (c)

English Language and Comprehension

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

To go away suddenly and secretly in order to escape from somewhere

(a) Abscond
(b) Vanish
(c) Excavate
(d) Extradite

Answer: (a)

2. Select the most appropriate meaning of the underlined idiom. My friend's business has grown by leaps and bounds.

(a) rapidly
(b) aimlessly
(c) perfectly
(d) slowly

Answer: (a)

3. Select the most appropriate option that can substitute the underlined segment in the given sentence. Peer pressure is bound to effect most of us both positively and negatively.

(a) to invoke most of us
(b) to affect most of us
(c) to impede most of us
(d) to prompt most of us

Answer: (b)

4. Select the most appropriate synonym of the given word. Peculiar

(a) Neat
(b) Normal
(c) Strange
(d) Jovial

Answer: (c)

5. Select the sentence that has NO spelling errors.

(a) The teacher was impressed with the student's insightfull analysis of the novel, which demonstrated a deep understanding of the complex theames and motifs.

(b) The teacher was impressed with the student's insightful analysis of the novel, which demonstrated a deep understanding of the complex themes and motifs.

(c) The teacher was imprresed with the student's insightul analysis of the novel, which demonstrated a deep understanding of the complex themes and motifes.

(d) The teacher was impresed with the student's insightful analysis of the novel, which demonstreted a deep understanding of the complex themes and motifs.

Answer: (b)

6. Select the INCORRECTLY spelt word.

(a) Beginning

(b) Writting

(c) Argument

(d) Amateur

Answer: (b)

7. Select the most appropriate meaning of the underlined idiom in the following sentence.

Tim joined the family business as he failed in his final degree examination. Seeing the growth of the family business now, it seems like Tim's earlier failure was a blessing in disguise.

(a) A difficult time

(b) A mistake

(c) Something good that isn't recognised at first

(d) A good decision

Answer: (c)

9. Parts of the following sentence have been underlined and given as options. Select the option that contains an error.

If he will come early, we will leave on time.

(a) will come

(b) If he

(c) on time

(d) we will

Answer: (a)

10. Select the most appropriate meaning of the underlined idiom in the following sentence.

I ordered a dozen doughnuts, but the kind baker gave me a baker's dozen.

(a) A group of 12 bakery items

(b) A group of 12 bakers

(c) A group of 13

(d) A group of 12

Answer: (c)

11. Parts of the following sentence have been underlined and given as options. Select the option that contains an error. They had two bedrooms among them, one for the girls and one for the boys.

(a) girls and one
(b) them, one for
(c) bedrooms among
(d) had two

Answer: (c)

12. Select the INCORRECTLY spelt word.

(a) Adopt
(b) Advertisement
(c) Contantment
(d) Container

Answer: (c)

13. Select the most appropriate ANTONYM of the given word. Wisdom

(a) Stupidity
(b) Experience
(c) Modesty
(d) Intelligence

Answer: (a)

14. Select the option that will improve the underlined part of the given sentence. In case no improvement is needed, select 'No improvement required'. Jack being the wiser and bolder among the two of us, took the lead, carrying the axe on his shoulder.

(a) bolder between
(b) boldest among
(c) No improvement required
(d) boldest between

Answer: (a)

15. Select the option that can be used as a one-word substitute for the underlined group of words. Many people fought to put an end to slavery during the civil war.

(a) abolish
(b) absorb
(c) abide
(d) abduct

Answer: (a)

16. Select the most appropriate ANTONYM of the word given in brackets to fill in the blank. The doctor said that the patient named Rumi is in the _____(initial) stage of lung cancer.

(a) terminal

(b) innermost

(c) early

(d) outermost

Answer: (a)

17. Select the most appropriate option to fill in the blank. He generally avoids arguments as he is _____ by nature.

(a) questionable

(b) reliable

(c) quick-minded

(d) peaceful

Answer: (d)

18. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'. The pandemic has challenged education systems to ensure learning continuity, substantially increasing the demands placed on teachers.

(a) education systems to ensuring learning

(b) education systems for ensure learning

(c) education systems in ensure learning

(d) No substitution required

Answer: (d)

19. Select the most appropriate idiom from the given options to fill in the blank. We broke the traffic rules unknowingly while coming back from the party, now we have to _____ sooner or later.

(a) face the music

(b) look sharp

(c) cry for the moon

(d) bid defiance

Answer: (a)

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

Guard over / making mistakes / by carefully checking / the assigned task.

(a) Guard over

(b) by carefully checking

(c) the assigned task

(d) making mistakes

Answer: (a)

Passage — for questions 21–25

> In the following passage some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank. _____(1) university or college degree has long been the traditional hallmark of a _____ (2) candidate in the professional arena. While it historically provided the most widely accepted standard of qualification and skill for professionals, many companies today _____ (3) their hiring process and considering a broader list of criteria to judge a candidate's ability. Organisations are reducing their reliance on college degrees as a sole marker of competence and instead placing greater emphasis _____ (4) the practical skills candidates have acquired through work experience. This shift in hiring is of particular relevance to India, which has the _____ (5) youth population in the world.

21. Select the most appropriate option to fill in blank number 1.
    (a) The
    (b) That
    (c) A
    (d) An

    Answer: (c)

22. Select the most appropriate option to fill in blank number 2.
    (a) was qualify
    (b) qualify
    (c) qualification
    (d) qualified

    Answer: (d)

23. Select the most appropriate option to fill in blank number 3.
    (a) was changed
    (b) was changing
    (c) changing
    (d) are changing

    Answer: (d)

24. Select the most appropriate option to fill in blank number 4.
    (a) about
    (b) for
    (c) with
    (d) on

    Answer: (d)

25. Select the most appropriate option to fill in blank number 5.
    (a) largest
    (b) longest
    (c) biggest
    (d) most highest

    Answer: (a)

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	**(a)**	2	**(c)**	3	**(d)**	4	**(a)**	7	**(b)**	9	**(a)**
10	**(a)**	11	**(d)**	12	**(c)**	13	**(c)**	14	**(c)**	15	**(c)**
16	**(b)**	17	**(c)**	18	**(b)**	19	**(a)**	20	**(c)**		

Reasoning Ability and Problem Solving

1	**(c)**	2	**(d)**	4	**(c)**	5	**(a)**	6	**(d)**	7	**(c)**
8	**(d)**	9	**(b)**	10	**(b)**	12	**(a)**	13	**(c)**	15	**(c)**
16	**(c)**	17	**(a)**	18	**(c)**	19	**(a)**	20	**(c)**		

General Awareness

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

English Language and Comprehension

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