

**EDUCATIONAL ASSESSMENT AND EXAMINATION SERVICE
ETHIOPIAN SECONDARY SCHOOL LEAVING
CERTIFICATE EXAMINATION (ESSLCE)
SCHOLASTIC APTITUDE TEST
TIKIMTE 2014/ 15 (OCTOBER 2022)**

BOOKLET CODE: 076

**SUBJECT CODE: 03
TIME ALLOWED: 2 HOURS**

GENERAL INSTRUCTIONS

THIS BOOKLET CONTAINS **SCHOLASTIC APTITUDE TEST** EXAMINATION. THE CODE FOR THIS SUBJECT IS **03** AND THE CODE FOR THIS PARTICULAR BOOKLET IS **076**. PLEASE COPY THESE CODES ON YOUR ANSWER SHEET WHERE IT READS **SUBJECT CODE** AND **BOOKLET CODE**.

THE TEST HAS **TWO MAIN SECTIONS** WITH A TOTAL OF 60 ITEMS. SECTION ONE CONTAINS **VERBAL REASONING** AND SECTION TWO CONTAINS **QUANTITATIVE REASONING**. VISUALLY IMPAIRED CANDIDATES ARE REQUIRED TO ATTEMPT **VERBAL REASONING SECTION ONLY**. ALL OTHER CANDIDATES ARE REQUIRED TO ATTEMPT **BOTH SECTIONS**.

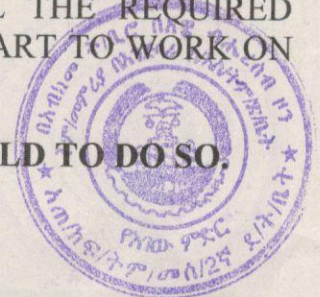
EACH SECTION CONTAINS **MULTIPLE CHOICE ITEMS** CONSISTING OF FOUR POSSIBLE ANSWERS. IN EACH CASE, SELECT THE BEST ANSWER AND **BLACKEN** THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED. FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER CAREFULLY. USE ONLY **PENCIL** TO MARK YOUR ANSWERS. YOUR ANSWER MARK SHOULD BE **HEAVY AND DARK**, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY INCLUDING ANSWERS YOU HAVE CHANGED FROM YOUR ANSWER SHEET.

VISUALLY IMPAIRED CANDIDATES ARE ALLOWED TO WORK FOR **ONE HOUR** ONLY. THE OTHER CANDIDATES ARE ALLOWED TO WORK THE EXAM FOR **TWO HOURS**. WHEN TIME IS CALLED, YOU MUST IMMEDIATELY STOP WORKING, PUT YOUR PENCIL DOWN AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT IN THE EXAMINATION WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCELLATION OF YOUR SCORE.

PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT TURN THIS PAGE OVER UNTIL YOU ARE TOLD TO DO SO.



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SECTION ONE: Verbal Reasoning (Questions 1-35)

This section which is subdivided into analogy, synonyms, antonyms classification, reading comprehension, analytical and logical reasoning contains 35 verbal reasoning items altogether. Each subsection is followed by its specific direction.

Reading Comprehension I (1-5)

Directions: Read the passage carefully and answer questions 1-5. Each question will be based on the information stated or implied in the passage. Then **blacken** the letter of your choice on the separate answer sheet provided.

Daylilies are beautiful perennial flowers that can brighten up any yard or landscape. They are tolerant of drought and flooding, immune to heat stress, and grow well in full sun or light shade. They are the perfect choice for just about any soil or climate condition.

Different varieties of daylilies can be in bloom from late spring until autumn. Individual flowers last only one day, but each plant produces many buds, and many varieties have more than one flowering period.

Daylilies grow best in soil that is slightly acidic, and they prefer either direct sunshine or light shade. The best time to plant them is in the early fall or early spring, but they are hardy enough to endure planting or transplanting at almost any time of year. They should be planted 18 to 24 inches apart, and the bulb should be no deeper than one inch below the soil's surface.

Adapted from **Reading Comprehension - Practice Questions**

1. According to the passage, what soil is best for daylilies?
- | | |
|---------------------|---------------|
| A. Slightly neutral | C. Any soil |
| B. Slightly acidic | D. Moist soil |



2. You could infer from this passage that these flowers are called day-lilies because
- A. they only bloom in the daytime.
 - B. they look like real lilies, but aren't.
 - C. the blooms last for one day.
 - D. Charles Day developed the hybrid.
3. How deep should daylilies be planted, according to the passage?
- A. one to 20 inches
 - B. one inch or more
 - C. 18 to 24 inches
 - D. any depth work
4. Daylilies grow best in
- A. darkness
 - B. the mornings
 - C. the evenings
 - D. sunshine
5. Which of the following is true according to the passage?
- A. Daylilies can stand drought.
 - B. Daylilies cannot stand drought.
 - C. Heat can cause stress to daylilies.
 - D. Daylilies cannot grow in sunny weather.

Analytical and Logical Reasoning Questions (6-13)

Directions: Questions 6-13 deal with logical and analytical reasoning. Read the given set of conditions and assumptions for each question. Choose the answer that you think is most appropriate among the given alternatives. Then **blacken** the letter of your choice on the separate answer sheet provided.

6. Tamrat's train never bothered him because there were always seats available on it, and he was able to spend his time on the train comfortably reading the newspaper or playing games on his mobile phone. Ever since the train schedule changed, the train has been extremely crowded, and by the time the doors open at his station, there isn't a seat to be found.
- A. Tamrat would be better off taking the bus to work instead of the train.
 - B. Tamrat's train is less comfortable since the train schedule changed.
 - C. Any traveller who uses the train will complain about the new schedule.
 - D. Tamrat will likely look for a new job closer to home.

7. It is called Restitution when you compensate someone for damaging his or her property in some way. Which of the following situations is the best example of Restitution?
- A. Tom borrows his friend's car and returns the car with an empty petrol tank. He apologizes and tells his friend that he will fill the tank tomorrow.
 - B. Tom borrows his friend's camera. Tom fails to zipper the case, and the camera falls on the ground, and the lens shatters. When Tom returns the camera, he tells his friend that he will pay for the damage.
 - C. Peter asks Tom to stay in his apartment when he is out of town. One day Tom arrives to stay and finds that pipe has burst and the apartment is filled with water. He calls the plumber to repair the pipe and pays for the repair.
 - D. A pothole in the parking of Peter's company caused his flat tyre. He informs his boss and expects that the company should pay for the repair.
8. A four-person crew is painting Mr. Omod's house. Michael is painting the front of the house. Roza is in the alley behind the house painting the back. Jemal is painting the window frames on the north side, Shawul is on the south. If Michael switches places with Jamal, and Jemal then switches places with Shawul, where is Shawul?
- A. in the alley behind the house
 - B. on the north side of the house
 - C. in front of the house
 - D. on the south side of the house
9. Four friends in the sixth grade were sharing a pizza. They decided that the oldest friend would get the extra piece. Hawi is two months older than Geremew, who is three months younger than Nardos. Kemal is one month older than Geremew. Who should get the extra piece of pizza?
- A. Hawi
 - B. Nardos
 - C. Geremew
 - D. Kemal



10. If you are a fitness walker, you don't need to go to a health gym. You also don't need any fitness equipment for workouts. All you need is a pair of comfortable athletic shoes.

Which of the following statements does this paragraph support?

- A. Fitness walking is better than weight lifting
 - B. Walking outdoors provides more health benefits than walking indoors
 - C. Fitness walking is an effective and convenient form of exercise
 - D. Poorly designed shoes can cause foot injuries
11. Sara lives in Adama. Her younger cousin Martha lives in a small town in the eastern part of Ethiopia. Martha has visited Sara several times during the past five years. In the same period of time, Sara has visited Martha only once.
- A. Martha likes Sara better than Sara likes Martha.
 - B. Sara thinks small towns are boring.
 - C. Sara is older than Martha.
 - D. Martha wants to move to another town.
12. Solomon introduced Sara as the mother of his sister's brother. How is Sara related to Solomon?
- A. Aunt
 - B. Niece
 - C. Mother
 - D. Sister
13. Mrs. Genet wishes to renovate her cottage. She hires the services of a plumber, a carpenter, a painter, an electrician, and an interior decorator. The renovation is to be completed in a period of one week, i.e. Monday to Friday. Every worker will be taking one complete day to do this job. Mrs. Genet will allow just one person to work per day.
- The painter can do this work only after the plumber and the carpenter have completed their jobs.
 - The interior decorator has to complete his job before that of the electrician.
 - The carpenter cannot work on Monday or Tuesday.

In case the painter works on Thursday, which among the following alternative is possible?

- A. The electrician works on Tuesday.
- B. The electrician works on Friday.
- C. The interior decorator does his work after the painter.
- D. The plumber and the painter work on consecutive days.

Antonyms (14-16)

Directions: Questions 14-16 consist of sentences in which one word is written in bold followed by four other words. Choose the word that is **most nearly opposite** in meaning to the word in **bold**. Then, blacken the letter of your choice on the separate answer sheet provided.

14. The officer **exaggerated** the damage caused by the rowdies and thus made it look more serious.
 A. Unreported C. Ignored
 B. Condemned D. Underestimated
15. The speaker was unable to **pacify** the crowd.
 A. Excite C. Antagonize
 B. Threaten D. Challenge
16. His negative attitude to poor people is **deplorable**.
 A. Miserable C. Equitable
 B. Commendable D. Desirable

Classification Items (17-21)

Directions: In questions 17 -21 a set of four words is given. Three of the words are related in some ways. The remaining word is not related to the rest. Choose the word that does not fit the relation and **blacken** the letter of your choice on the separate answer sheet provided.

17. A. Lion C. Leopard
 B. Elephant D. Tiger
18. A. Book C. Pen
 B. Pencil D. Eraser
19. A. Chaos C. Legal
 B. Confusion D. Order
20. A. Eye C. Tangle
 B. Heart D. Ear
21. A. Writer C. Publisher
 B. Reader D. Reporter



Analogy (22 -26)

Directions: To answer the items 22 -26, read each of the following words carefully and choose the word that correctly completes the analogy. Then blacken the letter of your choice on the separate answer sheet provided.

22. EXERCISE is to GYM as EATING is to: _____
A. Food C. Drink
B. Dieting D. Restaurant
23. The EVENING is to MORNING as DINNER is to: _____
A. Supper C. Lunch
B. Breakfast D. Brunch
24. GUN is to BULLET as a BOW is to: _____
A. Arrow C. Fly
B. Wood D. Sky
25. PEN is to POET as NEEDLE is to _____
A. Thread C. Sewing
B. Button D. Tailor
26. PLAY is to ACTOR as CONCERT is to: _____
A. Symphony C. Piano
B. Musician D. Persuasion

Synonyms (27- 30)

Directions: Questions 27- 30 consist of sentences in which one word is written in bold followed by four other words. Choose the word that is **most nearly similar** in meaning to the word in **bold**. Then, **blacken** the letter of your choice on the separate answer sheet provided.

27. The special TV report **disrupted** regular programming due to the day's special events.
A. Satisfied C. Interrupted
B. Complemented D. Continued
28. He **dissipated** his inheritance in less than six months and he is now back to where he was
A. Wasted C. Saved
B. Accumulated D. Hoarded

29. If enough members of parliament **dissent**, the new law will not be approved.
- | | |
|------------|-------------|
| A. Agree | C. Question |
| B. Support | D. Disagree |
30. During the riot, some of the demonstrators **looted** shops and supermarkets and took the goods to their home.
- | | |
|-----------|-----------|
| A. robbed | C. burned |
| B. wasted | D. shot |

Reading Comprehension II (31- 35)

Directions: Read the passage carefully and answer questions 31-35. Each question will be based on the information stated or implied in the passage. Then **blacken** the letter of your choice on the separate answer sheet provided.

If a person suddenly encounters any terrible danger, the change of nature one undergoes is equally great. Sometimes fear numbs our senses. Like animals, one stands still, powerless to move a step in fright or to lift a hand in defense of our lives, and sometimes one is seized with panic, and again, act more like the inferior animals than rational beings. On the other hand, frequently in cases of sudden extreme peril, which cannot be escaped by flight, and must be instantly faced, even the most timid men at once as if by miracle, become possessed of the necessary courage, sharp quick apprehension, and swift decision. This is a miracle very common in nature. Man and the inferior animals alike, when confronted with almost certain death 'gather resolution from despair' but there can really be no trace of so **debilitating** a feeling in the person fighting, or prepared to fight for dear life. At such times the mind is clearer than it has ever been; the nerves are steel, there is nothing felt but a wonderful strength and daring! Looking back at certain perilous moments in my own life, I remember them with a kind of joy, not that there was any joyful excitement then, but because they broadened my horizon, lifted me for a time above myself.

Adapted from **Reading Comprehension - Practice Questions**

31. The title that best suits the passage would be:
- | |
|--------------------------------------|
| A. The Will to Fight |
| B. The Miracle of Confronting Danger |
| C. The Change of Nature |
| D. Courage and Panic |



32. What is the meaning of the word debilitating?
- A. Enfeeble C. Strengthen
B. Debase D. Fatten
33. The author feels happy in the recollection of dangers faced and overcome because
- A. they brought him a new experience.
B. they added lifted him above himself for a time.
C. these experiences boosted his confidence.
D. he felt elated as he was alive.
34. A man may react to sudden danger in some different ways. Some of these are:
- A. He may flee panic, or fight back, stand still or act like an inferior animal.
B. He may be paralysed with fear, flee panic, seized with panic or act like an inferior animal.
C. He may be paralysed with fear, seized with panic, or act like an inferior animal.
D. He may be paralysed with fear, run away, or fight.
35. Explain the phrase ‘gather resolution from danger’.
- A. Hopelessness makes one determined to face the difficulty.
B. Find peace in times of difficulty.
C. To remain calm and not to lose hope when there is a difficulty
D. Questions to be enthusiastic and brave the odds during difficulty

SECTION TWO: Quantitative Reasoning (Questions 36-60)

DIRECTIONS: Solve each of the problems given in questions 36-60 below and select the best answer from the given alternatives and **blacken** the letter of your choice on the separate answer sheet.

36. Let $x \neq -2, x \neq 3$ and $x \neq -\frac{4}{7}$. Then $\left(\frac{2}{x+2} + \frac{5}{x-3}\right) \div \left(\frac{7x+4}{2x-6}\right)$ equals:

A. $\frac{2}{x+2}$

C. $\frac{3}{x-3}$

B. $\frac{7x-1}{(x+2)(7x+4)}$

D. $\frac{7x+4}{x+2}$

37. When the polynomial $5x^4 - 2x^3 + x^2 - x + 1$ is divided by $x^2 - 1$, the remainder is:

A. $\frac{-3x+7}{x^2-1}$

C. $5x^2 - 2x + 6$

B. $-3x + 7$

D. $\frac{x^2-1}{-3x+7}$

38. Given that x and y are negative numbers.

Quantity A	Quantity B
$x + y$	$x - y$

Which of the following is true about the relationship between quantities A and B?

- A. The two quantities are equal.
 B. The relationship cannot be determined.
 C. Quantity A is greater than quantity B.
 D. Quantity B is greater than quantity A.

39. Given that $2^{1.5894} = 3$.

Quantity A	Quantity B
$2^{4.327}$	11

How are quantities A and B related?

- A. The two quantities are equal.
- B. The relationship cannot be determined.
- C. Quantity A is greater than quantity B.
- D. Quantity B is greater than quantity A.

Questions 40-44 are based on the table below, which gives the expenditure of a firm (in millions of birr) per annum over the given years.

Year	Item of expenditure				
	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
2006	314	92	3	24	85
2007	258	110	2.5	33	71
2008	732	131	3.4	28	112
2009	450	104	2.6	31	98
2010	370	125	3.8	42	93

40. The total expenditure of the firm over these items during the year 2007 is:
- A. 447.5
 - B. 474.5
 - C. 467.5
 - D. 476.5
41. What is the average amount of tax per year which the firm had to pay during the whole period?
- A. 114.75
 - B. 76.5
 - C. 91.8
 - D. 82.9
42. Total expenditure on all these items in the year 2006 was approximately what percent of the total expenditure in the year 2010?
- A. 78.25
 - B. 80.12
 - C. 83.71
 - D. 81.73

43. The total amount of bonus paid by the firm during the whole period is approximately what percent of the total amount of salary paid during this period?
- A. 0.72
B. 0.68
C. 0.62
D. 0.58
44. What is the approximate ratio between the total expenditure on interest on loans for all the years and the total expenditure on fuel and transport for all the years?
- A. 10:26
B. 10:29
C. 10:36
D. 10:39
45. A student earns 13 birr per hour working for the computer center's help desk and 9.50 birr per hour working at the copy center. Because of her course load, she limits her work to 25 hours per week. She wants to earn at least 275 birr each week. Which of the following system of linear inequalities represent this information?
- A.
$$\begin{cases} 13x + 9.5y \leq 275 \\ x + y \geq 25 \\ x \geq 0, y \geq 0 \end{cases}$$

B.
$$\begin{cases} 13x + 9.5y \geq 275 \\ x + y \leq 25 \\ x \geq 0, y \geq 0 \end{cases}$$

C.
$$\begin{cases} 13x + 9.5y < 275 \\ x + y \leq 25 \\ x \geq 0, y \geq 0 \end{cases}$$

D.
$$\begin{cases} 13x + 9.5y > 275 \\ x + y \leq 25 \\ x \geq 0, y \geq 0 \end{cases}$$
46. Consider the following system of linear inequalities
- $$\begin{aligned} x - y &\leq 3 \\ 3x - 3y &\geq d \end{aligned}$$
- If the solution set of the system is empty, which of the following numbers could be the value of d ?
- A. 5
B. 7
C. 8
D. 15

47. A Pediatrician uses the model $h = 3.3a + 28.6$ to estimate the height h of a boy, in inches, in terms of the boy's age a , in years, between the age of 2 and 5. Based on the model, what is the estimated increase, in inches, of the boy's height each year?
- A. 14.3
B. 28.6
C. 3.3
D. 4.3
48. Two six sided dice are thrown together. What is the probability that the sum of the two numbers on top is 10?
- A. $\frac{1}{6}$
B. $\frac{1}{2}$
C. $\frac{5}{6}$
D. $\frac{1}{12}$
49. Nine identical balls numbered 1 through 9 are placed in a bag. A ball is randomly drawn and replaced. Then, a second ball is randomly drawn. What is the probability that the first ball drawn and the second ball drawn are both even numbered?
- A. $\frac{8}{81}$
B. $\frac{16}{81}$
C. $\frac{20}{81}$
D. $\frac{25}{81}$
50. Mesfin bought a laptop valued Birr 7700. One year later the value of the laptop is decreased by $\frac{2}{7}$. What is the new value of the laptop?
- A. 2200 birr
B. 4400 birr
C. 5500 birr
D. 9900 birr
51. Hamza spent 22 minutes on his English homework and 25.08 minutes on his Mathematics homework. What percent more time does Hamza spent on his Mathematics homework?
- A. 14
B. 12
C. 87
D. 28

52. Suppose a chain letter is started by sending a letter to five people and the letter requires each person who receives the letter to send it on to five additional people. Assume that no person receives more than one letter. How many letters are sent all together if the chain reaches the eighth stage?
- A. 488,280
B. 480,280
C. 490,625
D. 390,625
53. If the line passing through (x, y) and $(-1, 2)$ has a slope of 3 and the line passing through (x, y) and $(2, -1)$ has a slope of 1, then (x, y) equals:
- A. $(-4, 7)$
B. $(4, -7)$
C. $(4, 7)$
D. $(-4, -7)$
54. Ali wants to invest a total of Birr 20,000 so that his yearly interest is Birr 1690. If he invests part of it in a bank yielding 8% profit and the other part in a stock at 9.5% profit, how much should he invest at each rate?
- A. Birr 6000 at 9.5%; Birr 14000 at 8%
B. Birr 8000 at 9.5%; Birr 12000 at 8%
C. Birr 7500 at 9.5%; Birr 12500 at 8%
D. Birr 9000 at 9.5 %; Birr 11000 at 8%
55. The red, green and black lollies in a packet are in the ratio 2:3:5. How many green and black lollies are there, if there are 10 red lollies?
- A. 6 green lollies and 15 black lollies
B. 15 green lollies and 25 black lollies
C. 25 green lollies and 15 black lollies
D. 30 green lollies and 50 black lollies
56. At a restaurant the bill came to 82 birr. If you leave 119.72 birr, what percent tip is that?
- A. 64
B. 38
C. 31.5
D. 46

57. Suppose the population of a town is given by the model

$p(t) = 17250 \left(\frac{1}{2} \right)^{\frac{t}{10}}$, where t denotes the number of years since 2000. Which

of the following statement is true?

- A. The population in 2000 was 8625.
 - B. The population doubles every ten years.
 - C. The population is halved every ten years.
 - D. The population is growing by 50% every ten years.
58. Meseret begins a saving program in which she will save Birr 1000 the first year, and each subsequent year will save Birr 200 more than she did the previous year. How much will she save during the eighth year?
- A. Birr 2200
 - B. Birr 2400
 - C. Birr 2600
 - D. Birr 1360
59. A ball bounces one-half the distance from which it falls. How high does it bounce up on the fifth rebound if the ball is dropped from a height of 20m?
- A. 5m
 - B. 2.5m
 - C. 0.625m
 - D. 1.25m
60. A contest offers a total of 18 prizes. The first prize is worth Birr 10,000, and each successive prize is worth Birr 500 less than the next higher prize. What is the total value of all the prizes?
- A. Birr 103,500
 - B. Birr 113,500
 - C. Birr 108,000
 - D. Birr 105,000

THE END