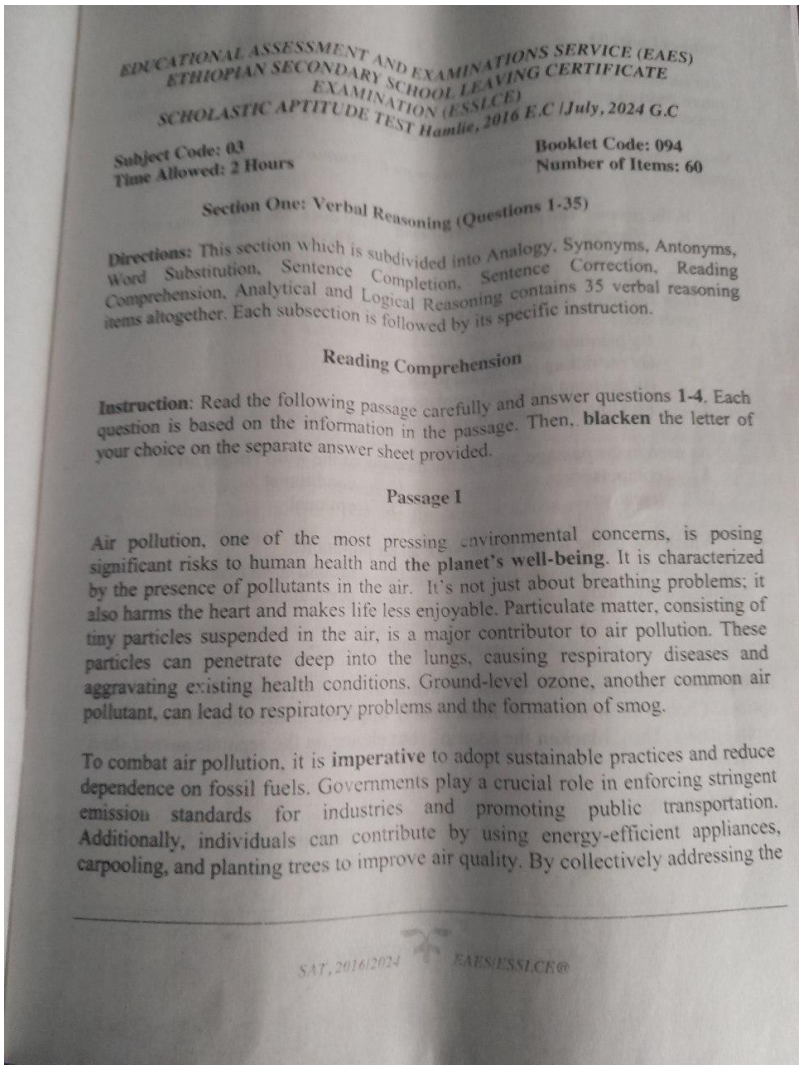
Ethio Matrics



EDUCATIONAL ASSESSMENT AND EXAMINATIONS SERVICE (EAES)
ETHIOPIAN SECONDARY SCHOOL LEAVING CERTIFICATE EXAMINATION (ESSLCE)
SCHOLASTIC APTITUDE TEST Hamlie, 2016 E.C /July, 2024 G.C

Subject Code: 03 **Booklet Code: 094**
Time Allowed: 2 Hours **Number of Items: 60**

Section One: Verbal Reasoning (Questions 1-35)

Directions: This section which is subdivided into Analogy, Synonyms, Antonyms, Word Substitution, Sentence Completion, Sentence Correction, Reading Comprehension, Analytical and Logical Reasoning contains 35 verbal reasoning items altogether. Each subsection is followed by its specific instruction.

Reading Comprehension

Instruction: Read the following passage carefully and answer questions **1-4**. Each question is based on the information in the passage. Then, **blacken** the letter of your choice on the separate answer sheet provided.

Passage I

Air pollution, one of the most pressing environmental concerns, is posing significant risks to human health and **the planet's well-being**. It is characterized by the presence of pollutants in the air. It's not just about breathing problems; it also harms the heart and makes life less enjoyable. Particulate matter, consisting of tiny particles suspended in the air, is a major contributor to air pollution. These particles can penetrate deep into the lungs, causing respiratory diseases and aggravating existing health conditions. Ground-level ozone, another common air pollutant, can lead to respiratory problems and the formation of smog.

To combat air pollution, it is **imperative** to adopt sustainable practices and reduce dependence on fossil fuels. Governments play a crucial role in enforcing stringent emission standards for industries and promoting public transportation. Additionally, individuals can contribute by using energy-efficient appliances, carpooling, and planting trees to improve air quality. By collectively addressing the

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root causes of air pollution, we can create a healthier environment for current and future generations. Planting trees and participating in community clean-up efforts further contributes to the improvement of air quality at the local level.

Source: slightly adapted from https://www.pw.live/exams/school/air-pollution-essay/

1. In the phrase, "**the planet's well-being**", what does "the planet" refer to?
   A. The earth
   B. The sun
   C. The moon
   D. The nine planets

2. How can an air pollution-free environment be created for the new generation?
   A. By planting trees every year
   B. By restricting private use of car
   C. By devising rules and regulations
   D. Tackling the causes of air pollution from the source

3. As used in the passage, what is the meaning of the word "**imperative**"?
   A. compulsory
   B. tentative
   C. conditional
   D. optional

4. Which one of the following is **NOT** an air pollutant?
   A. smog
   B. carpooling
   C. ground-level ozone
   D. particulate matter

Antonyms

Instruction: Questions **5-7** consist of words in capital letters followed by four options. Choose the word that is **most nearly opposite** in meaning to the word in capital letters. Then, **blacken** the letter of your choice on the separate answer sheet provided.

5. DAUNTING
   A. Discouraging
   B. Intimidating
   C. Frightening
   D. Entertaining

6. IMMACULATE
   A. Filthy
   B. Lucid
   C. Spotless
   D. Tidy

7. RAVAGE
   A. Devastate
   B. Ruin
   C. Damage
   D. Renovate

Reading Comprehension

Instruction: Read the following passage carefully and answer questions **8-11**. Each question is based on the information in the passage. Then, **blacken** the letter of your choice on the separate answer sheet provided.

Reading Passage II

Population, which means the total number of people living in a certain area, is a critical aspect of our world. However, this simple number has **far-reaching** effects on our world. It greatly influences our societies, economies, and environment. When population grows too rapidly, it can create problems like shortages of food, clean water, and housing. On the flip side, a declining population can lead to workforce shortages and economic difficulties. Striking a balance is essential.

To manage population growth, governments and communities implement various strategies. They promote family planning, educate people about birth control, and create job opportunities to reduce the pressure on resources. Education is a key tool here as it empowers individuals to **make informed decisions** about family size. In essence, understanding and managing population is crucial for ensuring a better quality of life for everyone and a sustainable future for our planet.

Source: slightly adapted https://infinitylearn.com/surge/english/paragraph/population-paragraph/:

8. What does to "**make informed decision**" mean in the above passage? It means decision:
   A. based on facts and information.
   B. made for the sake of satisfying oneself.
   C. made for the sake of satisfying others.
   D. based on mere personal opinion.

9. What is the theme of the passage?
   A. Population control and its disadvantages.
   B. The need to balance birth rate and death rate.
   C. Population growth always poses challenges.
   D. Decline in population size has problems.

10. Based on the information given in the passage, which one of the following statements is **correct**?
   A. Having the requisite understanding about population is what matters most.
   B. Both the government and the community are responsible for controlling population.
   C. The role of the community is highly constrained.
   D. It is the sole responsibility of the government to control population growth.

11. What does the word "**far-reaching**" mean according to the context of the passage?
   A. facilitating resource allocation
   B. impacting economic development
   C. affecting certain areas
   D. going to faraway places

Analytical and Logical Reasoning Questions

Instruction: Questions **12-17**, 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.

12. **Statement**: Thomas Edison failed so many times before he invented the light bulb. Instead of quitting, however, Edison tried again and again until he finally achieved success. His achievement was applauded as an extraordinary determination.

Conclusion I: A problem can be a chance to do one's best.
Conclusion II: It is advisable to have perseverance in the face of challenges.
Conclusion III: One has to always indulge in a problem whatever the consequences may be.

A more valid conclusion for the above statement is:

A. Conclusions I and II
B. Conclusions II and III
C. Conclusion II
D. Conclusion I

13. It is apparent that most of the well-paid jobs in today's thriving economy require a higher level learning, usually a university degree. Conversely, many of the new jobs being created and flourishing, ranging from medium level businesses to huge manufacturing industries mainly require knowledge other than just having a degree. For workers in these new jobs, basic skills in communication, interpersonal skills and team work play a crucial role in getting a job and attaining career development.

Based on this information, it is valid to conclude that:

A. Career development in most jobs is impossible without producing a degree.
B. A university degree is irrelevant for the newly created and flourishing jobs.
C. The new jobs that are being created rather require knowledge of soft skills.
D. Holding a university degree is crucial for career development.

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14. **Statement I**: For quite some years now, several sub-cities in Addis Ababa get one or two days' of water supply per week.
Statement II: There has been significant imbalance between demand for and supply of water in the city
Statement III: There has been a booming water trading market in the city in the last few years.
Which one of the following ideas is **TRUE** about the above statements?
A. Each of the three is an independent cause for three different effects.
B. Statement III is the cause and statements I and II are its effects.
C. Statement II is the cause and statements I and III are its effects.
D. Statement I is the cause and statements II and III are its effects.

15. **Statement:** XYZ company workers who have their own cars are constantly complaining as they do not get parking spaces either in the company compound or by the side of the street facing the company. The company administration couldn't give any solutions to the complaints of the workers.

Conclusion I: The workers should start using public transportation.
Conclusion II: The workers should leave their cars at home.
Conclusion III: The workers should rather sell their cars
Which one of the following conclusions would follow from the above statement?
A. Both conclusions I and III
B. Both conclusions I and II
C. Conclusion II
D. Conclusion I

16. Five students (namely ***Ha***, ***Ga***, ***Ta***, ***Za*** and ***Ya***), all from the same grade level sat for four exams on four different subjects: English, History, Geography and Mathematics. For ***Ha*** History was the easiest while Mathematics was the most difficult; on the other hand, ***Ga*** found them to be the reverse of what ***Ha*** found them to be. ***Ta*** found both History and Mathematics the hardest and Geography the easiest. ***Za*** rather found them to be the opposite of what ***Ta*** found them to be. For ***Ya***, what **Ha** found the easiest was the most difficult.

According to the text, which subject was the most difficult one for most of the students?

A. Mathematics
B. English
C. History
D. Geography

17. **Assumption:** Most traffic accidents in Ethiopia are caused mainly because of what many drivers commit while driving: such as talking on the phone, exchanging text messages, violation of traffic regulations, and recklessness among other causes.

Conclusion I: Most traffic accidents are caused because drivers do not have the requisite driving skills.

Conclusion II: Most traffic accidents are caused due to the decisions such drivers make while they are driving.

Conclusion III: Most traffic accidents are the consequences of the ill-behaviors of such drivers.

Which one of the following conclusions is more logical for the above assumption?

A. Both conclusion II and III
B. Both conclusions I and II
C. Conclusion II
D. Conclusion I

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Word Substitution

Instruction: Questions **18-20** are related to word substitution. Each question is followed by four alternatives. Choose the word which could be interchangeably used with the words written in bold, and **blacken** the letter of your choice on the separate answer sheet provided.

18. Risk factors such as smoking, overweight, lack of physical exercise and stress **exacerbate** blood pressure, heart disease, and gastro-intestinal problems.
    A. moderate
    B. mitigate
    C. aggravate
    D. improve

19. Unethical work habits **jeopardize** individuals' development efforts and a country's overall growth potential.
    A. detriment
    B. facilitate
    C. speed-up
    D. accelerate

20. Lowland areas usually get **intermittent** rain; as a result, they have low animal and crop productions.
    A. substantial
    B. frequent
    C. regular
    D. sporadic

Sentence Completion

Instruction: The following sentences, **21-24**, are incomplete. Choose the word that best completes the meaning of the sentence contextually, and **blacken** the letter of your choice on the separate answer sheet provided.

21. Many health professionals believe that laughter has _____ effects on the human body as it enhances both physical and emotional health.
    A. detrimental
    B. harmful
    C. therapeutic
    D. adverse

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22. The _____ forests in western Ethiopia, accompanied by the shrimps and singing of birds and the fresh breeze are really inspirational.
A. abandoned
B. deserted
C. empty
D. tranquil

23. As it contains students from diverse cultural backgrounds, the class is a highly _____ one.
A. invariable
B. consistent
C. homogenous
D. heterogeneous

24. To fight some of the incurable diseases, the world is facing currently, scientists are _____ biotechnology to develop effective drugs.
A. setting aside
B. utilizing
C. discounting
D. overlooking

Sentence Correction

Instruction: Questions **25 – 28** consist of grammatically **incorrect** sentences. Choose the letter that contains the correct option. Then, **blacken** the letter of your choice on the separate answer sheet provided.

25. A. In my opinion, we can visited our friend when we return from school.
B. In my opinion, we can visit our friend when we return back from school.
C. In my opinion, I think, we can visit our friend when we back from school.
D. In my opinion, we can visit our friend when we are back from school.

26. A. The dog that was riding a bicycle barked at me.
B. The dog, while it was riding a bicycle, barked at me.
C. While it was riding a bicycle the dog barked at me.
D. The dog barked at me while I was riding a bicycle.

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27. A. What things are you enjoy doing in your spare time?
B. What are the things you enjoy doing in your spare time?
C. What things you are enjoy doing in your spare time?
D. What things you enjoy doing in your spare time?

28. A. The population of China is more great than India.
B. The population of china is greater than in India.
C. The population of china is greater than that of India.
D. The population of china is greater than India.

Synonyms

Instruction: Questions **29-31** consist of words printed in capital letters followed by four options. Choose the word that is **most nearly similar** in meaning to the word in capital letters. Then, **blacken** the letter of your choice on the separate answer sheet provided.

29. CONDONE
A. Forgive
B. Complicate
C. Confuse
D. Discourage

30. ADHERE
A. Decline
B. Drop
C. Abandon
D. Obey

31. FEASIBLE
A. Unrealistic
B. Impractical
C. Achievable
D. Ambitious

Analogy

Instruction: Answer questions 32 - 35 based on the pair that best expresses a relationship similar to that of the original or capitalized pair. Then, find the corresponding question number on the separate answer sheet provided, and **blacken** the letter of your choice.

32. BOTANY: PLANTS; _____: Soil
   A. Sociology
   B. Pedagogy
   C. Pedology
   D. Biology

33. WONDERFUL: SATISFACTORY; Gigantic: _____
   A. Broad
   B. Large
   C. Comprehensive
   D. Spacious

34. JUSTICE: FAIRNESS; _____: Bias
   A. Rational
   B. Prejudice
   C. Compassion
   D. Just

35. TEAM: PLAYER; _____: Member
   A. Crew
   B. Musician
   C. Vocalist
   D. Trainer

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Section Two: Quantitative Reasoning (Questions 36 – 60)

Directions: This section contains **25** quantitative reasoning items which consists of algebra, sequence, geometry, comparison of quantities probability and statistics altogether. Solve each of the problems given in question **36 – 60** according to their specific instruction and select the correct answer from the given alternatives. Then, **blacken** the letter of your choice on the separate answer sheet provided.

36. For what value(s) of k, does the system of linear equations $\begin{cases} 2x+3y=1 \\ kx+6y=-3 \end{cases}$ have a unique solution?

A. $k=-4$
B. $k\neq 4$
C. $k=4$
D. $k\neq -4$

37. If $\frac{3x^2+1}{3x+6}=\frac{x^2}{x+2}-3$, then what is the value of $\frac{1}{9x+1}$?

A. $-\frac{1}{5}$
B. $\frac{1}{20}$
C. $-\frac{1}{18}$
D. $\frac{1}{18}$

38. The difference of two numbers is 10, and the sum of three times the larger number and twice the smaller number is 55. Then which one of the following is the value of the larger number?

A. 14
B. 15
C. 6
D. 5

39. What present of 16 is 12?

A. 70%
B. 50%
C. 25%
D. 75%

40. One root of the equation $2x^2 + 1 = h - 5x$ (where h is a constant) is four times the other root. What are the roots of the given equation?

A. -2 and -8

B. 2 and 8

C. $-\frac{1}{2}$ and -2

D. $\frac{4}{2}$ and 2

41. How many different four letter words which start with vowel can be formed from the word **MATH** if the letters cannot be used more than once?

A. 24

B. 18

C. 8

D. 6

42. A bag contains 15 balls, numbered 1 through 15. What is the probability of selecting a number that is odd or a multiple of 4?

A. $\frac{1}{3}$

B. $\frac{11}{15}$

C. $\frac{1}{5}$

D. $\frac{8}{15}$

43. Let ΔABC is an isosceles triangle with $\angle C = 90^\circ$. If the length of side $\overline{AC}$, is 4 cm, then what is the length of side $\overline{AB}$ in centimeters?

A. $4\sqrt{2}$

B. 8

C. 4

D. $2\sqrt{2}$

44. Which one of the following can **NOT** be the degree measure of each interior angle of a regular polygon?

A. 140^o

B. 105^o

C. 120^o

D. 135^o

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Instruction: For Questions **45** and **46**, compare Quantity **P** and Quantity **Q** using the given information and choose the correct answer from the given alternatives that explains their relationship.

45. A data of numbers: c, a, b, e, f, c, & d is given, where $0 < a < b < c < d < e < f$

Quantity **P**	Quantity **Q**
Mode of the data	Median of the data

A. Quantity **P** is less than Quantity **Q**.
B. The relationship cannot be determined.
C. Quantity **P** is greater than Quantity **Q**.
D. Quantity **P** and quantity **Q** are equal.

46. Let x, y, z be the lengths of the sides of a triangle. And consider the following quantities.

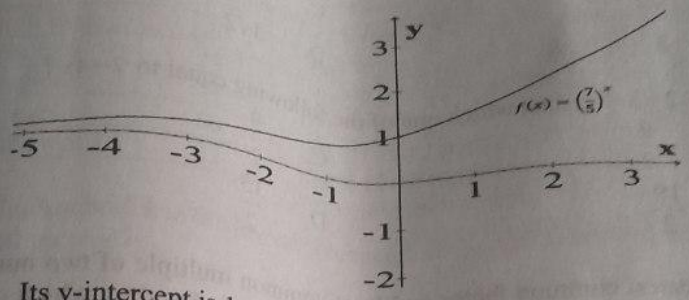
Quantity **P**	Quantity **Q**
$x + y + 3$	$z + 3$

A. Quantity **P** is less than Quantity **Q**.
B. Quantity **P** and quantity **Q** are equal.
C. Quantity **P** is greater than Quantity **Q**.
D. The relationship cannot be determined.

47. If $f(x) = 10^{2x-1}$, then which one of the following is equal to $f^{-1}(x)$?

A. $\log\sqrt{x} + \frac{1}{2}$
B. $\log\sqrt{x} - \frac{1}{2}$
C. $\log(2x-1)$
D. $\log x + \frac{1}{2}$

48. Which one of the following is NOT true about the graph of the function $f(x) = \left(\frac{7}{5}\right)^x$?



A. Its y-intercept is 1.
B. Its range is the set of all real numbers.
C. It is an increasing function.
D. Its domain is the set of all real numbers.

49. What are the values of y and z, respectively, in the sequence: $1, \frac{-1}{3}, \frac{1}{7}, \frac{-1}{15}, \frac{1}{31}, \frac{-1}{63}, y, z, \cdots$?

A. $\frac{1}{127}$ and $\frac{-1}{255}$
B. $\frac{1}{127}$ and $\frac{-1}{227}$
C. $\frac{1}{129}$ and $\frac{-1}{227}$
D. $\frac{1}{129}$ and $\frac{-1}{255}$

50. Which one of the following is the value of x in the sequence $23, 34, 56, 89, x, 188, \cdots$?

A. 100
B. 144
C. 111
D. 133

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51. What is the rationalizing factor of the denominator of $\frac{1}{\sqrt[3]{4}}$?

A. $\sqrt[3]{2}$
B. 2
C. $\sqrt{2}$
D. $3\sqrt{2}$

52. If $3x-2=3-5x$, then which one of the following equal to $7-4x$?

A. $-\frac{9}{2}$
B. $\frac{19}{2}$
C. $\frac{9}{2}$
D. $\frac{13}{2}$

53. The greatest common factor and least common multiple of two numbers are 12 and 336, respectively. If one of the numbers is 84, then which one of the following is the other number?

A. 48
B. 96
C. 36
D. 72

54. How many numbers in the set $\{-8,-5,-3,-1,0,2,5,7,8\}$ satisfy the condition $|5-3x|<11$?

A. 3
B. 6
C. 4
D. 5

55. A father is 32 years old and his son is 8 years old now. In how many years will the father be three times as old as his son?

A. 3
B. 5
C. 6
D. 4

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Instruction: Questions **56 - 60** are based on the data given in the table below. Answer each of the following questions based on the given data. The table shows the annual income of five schools P, Q, R, S and T in thousands Birr.

Source of income	Schools				
	P	Q	R	S	T
Tuition fees	120	60	210	90	120
Term fees	24	12	45	24	30
Donations	54	21	60	51	60
Grants	60	54	120	42	55
Miscellaneous	12	3	15	3	15

56. Which school has the lowest percentage of income from term fees out of its total income?
A. S
B. P
C. R
D. Q

57. Which school has the lowest ratio of miscellaneous to term fees?
A. S
B. T
C. Q
D. R

58. What is the average of the income from tuition fees of the five schools?
A. 90
B. 120
C. 100
D. 210

59. Which school has the lowest income from donations and term fees?
A. S
B. R
C. Q
D. T

60. Which school has the highest percentage of income from grants out of its total income?
A. P
B. S
C. Q
D. T

THE END

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