

48. Pipe A can fill a water tank in 3 hours. Pipe B and pipe C can empty the tank in 6 hours and 12 hours respectively. If the three pipes are opened together at the same time, how long will it take in hours to fill the tank?
- A. 6
B. 9
C. 10
D. 12
49. The floor of a hall of a museum is made by 200 colored ceramics which are arranged from the gate as red, yellow, blue, white, red, yellow, blue, white, and so on. What is the color of the 154th ceramic from the gate?
- A. Yellow
B. Red
C. Blue
D. White

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50. Which one of the following words describes the comparison of two quantities expressed in the same unit?
- A. Rate
B. Percentage
C. Ratio
D. Proportion
51. A woman wants to buy a dress during the Easter holyday. The price of the dress without VAT is Birr 4,200. Due to the holyday, the shop made a 10% discount on each item for a month. How much money does she required in Birr to buy the dress with a 15% VAT during the given month?
- A. 3,780
B. 4,830
C. 4,767
D. 4,347
52. Let 30% of students in a class be female. If there are 63 male students in the class, then how many female students are there in the class?
- A. 20
B. 25
C. 27
D. 30

Instruction: Questions 53 and 54 consists two quantities. Quantity A and Quantity B. Compare the two quantities and answer the questions from the given four alternatives that explain the relationship.

53. For any real number x , $-1 < x < 0$, consider the following table.

Quantity A	Quantity B
2^x	e^x

- Q. 53.
- A. Quantity A is greater than quantity B.
B. Quantity A is less than quantity B.
C. The two quantities are equal.
D. The two quantities cannot be compared.

54. Let 35% of 800 be equal to 3.5% of h.

Quantity A	Quantity B
h	7000

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

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55. Which one of the following is the slope of the line that passes through the points (2, 0) and (0, 1)?

- A. 2
B. -2
C. $\frac{1}{2}$
D. $-\frac{1}{2}$

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56. If the apothem of a regular hexagon is 4 cm, then what is the perimeter of the hexagon in cm?

- A. $\frac{16\sqrt{3}}{3}$
B. $\frac{32\sqrt{3}}{3}$
C. $16\sqrt{3}$
D. $32\sqrt{3}$

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57. Let the volume of a cone with slant height 13cm and radius 5cm be equal to the volume of a square pyramid of base area 60 cm^2 . Which one of the following is the height of the pyramid in cm?

- A. 3π
B. 4π
C. 5π
D. 6π

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34. Most of African countries have similar challenges. Due to the similarity of the nature of problems they encounter, common solutions can be shared among themselves.
- Which of the following is a logical conclusion based on the context?
- A. They need to make a coordinated and collective effort.
 - B. They have African Union Commission in Addis Ababa.
 - C. They have abundant natural resource to share together.
 - D. Fifty-five countries are united to form African Union.

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A passerby saw unhappy and crying woman and said, "Mom, if you don't mind my saying so, that is a pretty hat you are wearing, and an attractive dress you have put on".

Which of the following alternatives is the intention of the man?

- A. to get the woman's mind off her trouble
- B. to appreciate her with his loving eyes
- C. to solve the problem she is in
- D. to admire her valuable dressings

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Section Two: Quantitative Reasoning (Questions 36 – 60)

Directions: This section contains 25 quantitative reasoning items which consists of algebra, sequence and series, comparison of quantities, geometry, logical and analytical reasoning, probability and statistics. Solve each of the problems given in questions 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. What is the simplified form of the expression $\frac{2^{m_3n} + 2^{n_3m}}{5^m + 5^n} ?$
- A. $\left(\frac{6}{5}\right)^m$
 - B. $\frac{6^m}{5^n}$
 - C. $\frac{6^n}{5^m}$
 - D. $\left(\frac{6}{5}\right)^n$
37. If $a = 2.1 \times 10^5$, $b = 3.1 \times 10^4$ and $c = 2.3 \times 10^{-3}$, then what is the value of $c(a + b)$?
- A. 5.543
 - B. 5.543×10
 - C. 5.543×10^2
 - D. 5.543×10^3
38. A thermometer is designed to measure optimally when the temperature variation from a set point is not more than 7°C . If the set point is 34°C , then which one of the following, in $^\circ\text{C}$, can NOT be measured by the thermometer?
- A. 26
 - B. 28
 - C. 39
 - D. 41

Instruction: Read the following passage carefully and answer questions 24 - 27 based on the information stated or implied in the passage. Then, **blacken** the letter of your choice on the separate answer sheet provided.

Passage II

People approach arguments in two different outlooks that have their own process of development. While the one is having a position of disagreeing due to the desire to sustain past beliefs, the other is the attitude of the critical viewers who want to judge depending on reliable evidence. These two ways lead to direct what should be believed and result in their respective ways. For instance, a person can truly associate his/her present set of beliefs. Then, if he/she were mistaken about something, he/she would admit that until he/she has been defective – a difficult thing to do. In this case, it is important for that person to be right, and not to change his/her beliefs, or learn from someone else.

On the other hand, one might identify him/herself more closely with the belief-forming process. In order to maintain the set of beliefs, the person should think

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more in a dynamic way than in static terms. This means, one has to actively engage in replacing less adequate beliefs with more adequate ones. A tradition of active, critical, and open discourse with others is associated with the renowned early Greek philosopher Socrates. This involves constantly scrutinizing beliefs and asking whether they are justified by the reasons put forward in their support. Therefore, people would add this process is as important in their dialogues with themselves as with others.

Source: Cedervom, J. and Paulsen, David W. (2001). Critical Reasoning: Understanding and criticizing arguments and theories. Wadsworth/Thomson/ Learning Belmont (CA.)

24. Based on the text, what is cause for the transition of ideas from one state to the other to bring about attitudinal change?
- people evaluate the facts and accept them smoothly
 - the transition of idea to new attitude needs no evidence
 - the new ideas need to falsify the previously existing one
 - attitudinal equilibrium of the two attitudes derive change
25. Which one of the following ideas is the evidence for your answer to question number 24?
- Line 5 - 6 [For instance ... present set of beliefs]
 - Line 2 - 3 [While the one...to sustain past beliefs]
 - Line 12-13 [This means ... more adequate ones]
 - Line 7-8 [In this case...not to change his/her beliefs]
26. Which of the following is the process of attitude formations the writer expressed as dynamic?
- Sustaining background knowledge as a belief
 - Examining beliefs to accept with justified reasons
 - Failure to change the process of attitude formation
 - Criticism of accepting other people's beliefs
27. Where does the writer mentioned evidence for your answer to question number 26?
- Line 15 -16 [This involves ... forward in their support]
 - Line 4 - 5 [These two ways ...respective ways]
 - Line 2 - 3 [...having a position of ...past beliefs]
 - Line 7 [...he would admit ... difficult thing to do]

EDUCATIONAL ASSESSMENT AND EXAMINATIONS SERVICE (EAES)
ETHIOPIAN SECONDARY SCHOOL PILOT TEST (ESSPT)
Glnbot, 2017 E.C /May, 2025 G.C

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SUBJECT: SAT

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TIME ALLOWED: 2 hrs.

Section One: Verbal Reasoning (Questions 1 - 35)

Directions: This section, which is subdivided into Analogy, Synonyms, Antonyms, Sentence Completion, Jumbled Sentences, Reading Comprehension, and Analytical and Verbal Reasoning, contains 35 items altogether. Each subsection is followed by its specific instruction.

Analogy

Instruction: For items 1 - 4, read each of the following pair of word relations in capital letters and choose the word that has a similar relationship with the pair of words. Then, **blacken** the letter of your choice on the separate answer sheet provided.

1. RATIONAL: REASONABLE; Emotion: _____
A. Thought C. Intellect
B. Stability D. Capability
2. BONE: DISLOCATION; Kidney: _____
A. Renal C. Failure
B. Functional D. Pumping
3. _____: Hopeful; PESSIMIST: DESPERATE
A. Populist C. Activist
B. Opportunist D. Optimist
4. COMFORTING, RELAXING; _____: Terrifying
A. Frightening C. Moving
B. Irritating D. Pleasing

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Synonyms

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

5. ALIENATED
A. aligned C. separated
B. united D. enlarged

19. What so ever the context is,
 a. in education
 b. play
 c. nothing substitutes
 d. the role teachers
 A. d, c, b, a
 B. c, b, d, a

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- C. a, c, b, d
 D. c, d, b, a

Reading Comprehension

Instruction: Read the following passage carefully and answer questions 20 - 23 based on the information stated or implied in the passage. Then, **blacken** the letter of your choice on the separate answer sheet provided.

Passage I

The enormous amount of information available on the internet and its tremendous communication capacity raises some special problems for lawmakers. Nonetheless, some established principles still apply. Law concerning defamation applies to the net. Posting an erroneous message on the net that damages a person's **reputation** is just an actionable. And, although the law is still developing, it's clear that information on the web sites or in newsgroups can also **invade** someone's privacy. Copyright laws also apply to the online world. Many big companies that own a lot of copyrights actively pursue copyright infringers. Sexual "stalking" over the net is also prohibited although it is difficult to regulate worldwide network that has no regard for national boundaries. Besides, child pornography and obscenity are illegal on the internet. In laws of some countries that forbid this act, it is mentioned that computers are one of the channels where this illegal material might be circulated.

Source: Dominick, Joseph R. (1999) *The dynamics of mass communication*. (6th Ed.) McGraw-Hill College: Boston

20. What is the contextual meaning of the word 'reputation'?
- | | |
|---------------|----------------|
| A. defamation | C. honor |
| B. wellbeing | D. sovereignty |

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21. Why do the companies with multiple copyrights pursue infringers?
- | |
|--|
| A. They want to spread their excessive copyright. |
| B. They have big wealth to manage the process. |
| C. They want to protect infringers' goodwill for long periods. |
| D. They want to make infringers accountable for their actions. |
22. What is the meaning of the word 'invade' in the passage's context?
- | | |
|--------------|------------|
| A. cross | C. pursue |
| B. interfere | D. promote |
23. Why is controlling the sexual attack on the internet difficult?
- | |
|---|
| A. the internet is free from national borders |
| B. countries share boundaries in common |
| C. the law to control internet is effective |
| D. computers are preserved across countries |

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13. The bad perception of the spouses is that _____ with their extended family members.
- A. they often have mutual consent
 - B. whatever the case, they contend
 - C. they hardly complain
 - D. they usually agree
14. The city is getting crowded from time to time. As a result, the municipality _____
- A. is located at the center of the city in the crowd.
 - B. decided to design a new plan as soon as possible.
 - C. stated that there are no slums around the living areas.
 - D. reported that its council is elected by the people.

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Ordering Parts of a Sentence

Instruction: Questions 15 - 18 consist of sentences of which some parts have been jumbled up. Rearrange these parts which are labeled a, b, c, and d to produce the correct sentence. Then, **blacken** the letter of your choice on the separate answer sheet provided.

15. It was reported that
- a. rewarded by the manager
 - b. the quality production
 - c. the factory workers were
 - d. for their hard work and

A. c, b, d, a
B. b, d, a, c

C. d, c, b, a
D. c, a, d, b

16. Seasonal fluctuations
- a. the remarkable growth
 - b. for several years
 - c. the people made
 - d. affected

A. b, d, c, a
B. d, a, c, b

C. a, b, c, d
D. c, a, d, c

17. The year 1991 marked the
- a. innocent people
 - b. downfall of the cruel
 - c. military regime
 - d. that killed a lot of

A. c, b, a, d
B. a, d, c, b

C. b, c, d, a
D. d, a, b, c

18. Unlike the bus drivers,
- a. have adequate time
 - b. to take rest
 - c. the taxi drivers
 - d. on working days

A. c, a, b, d
B. c, b, d, a

C. b, a, c, d
D. d, c, a, b

39. Which one of the following is a solution set of $2|2x+1|+4=0$?

A. $\left\{\frac{-3}{2}\right\}$ Teleg. C. $\left\{\frac{1}{2}\right\}$

B. ϕ @btch2025 D. $\mathbb{R}$

40. If $2(x+1)-4(1-2x)=4x+22$, then what is the value of $\log_{16}(x^2+2x-16)$?

A. $\frac{3}{4}$ Teleg. C. 2

B. $\frac{3}{2}$ @btch2025 D. 4

41. A man walks from town A to town B at a speed of 4 km/hrs. He returns at a speed of 3 km/hrs along the same path and takes rest at a cafe for an hour. If the return trip is spending 2 hours more than the time he took from A to B, what is the distance between town A and town B in kilometer?

A. 10 C. 18
B. 12 D. 24

42. A woman deposits Birr 20,000 in a bank with an annual compound interest 7%. She withdraws Birr 898 at the end of the 2nd year. What is her balance in Birr at the end of the 4th year?

A. 24,042.90 C. 25,187.80
B. 24,615.35 D. 25,760.25

43. What is the simplest form of $\frac{\frac{-15x+9}{2x-3}+3}{\frac{-5x+3}{x-\frac{3}{2}}+5}$, for all $x \neq \frac{3}{2}$?

A. $\frac{x}{2}$ Teleg. C. $2x-3$
B. x D. $-5x+3$

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44. What is (are) the solution(s) of the equation, $m + \frac{2}{m} = \frac{m+2}{m}$?

A. -1 and 0 C. 0
B. 1 and 0 D. 1

45. Which one of the following can be a subset of $\{\{\phi, \{\phi\}\}\}$?

A. ϕ C. $\{\{\phi\}\}$
B. $\{\phi\}$ D. $\{\phi, \{\phi\}\}$

46. A man gives a total of Birr 600 for a business team and tells them to return double amount of money at the end of 3 months. When they give him back the required money, he refunds the same amount of many that they gave him. If he continues this for a year, how much money in Birr can he totally collect at the end of the year?

A. 2,400 C. 19,200
B. 4,800 D. 9,600

47. A mother gives her son 10 candies and a mathematics test with 20 questions. She told him that there is a reward if he can answer the questions correctly. The reward is 2 candies for the first question, 4 candies for the second question, 6 candies for the third question, and so on. How many candies does he collect if he can answer all the questions?

A. 420 C. 450
B. 430 D. 460

6. ASPIRE
A. assure
B. desire
C. attain
D. search
7. ENDURANCE
A. influence
B. advance
C. success
D. strength

Antonyms

Instruction: Questions 8 - 10 consist of sentences in which one word is written in bold. 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.

8. Although the members of the committee needed more discussion on the agenda, the chairperson **adjourned** the meeting.
A. extended
B. concluded
C. transferred
D. elaborated
9. The bright faces you see indicate the time they spent was **fabulous**.
A. terrorizing
B. tireless
C. monotonous
D. humorous

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10. The seriousness of the hazard did not make them change their action of **rescuing** lives.
A. helping
B. serving
C. risking
D. isolating

Sentence completion

Instruction: Each sentence, 11 - 14, below has one blank space followed by four options. Choose the option that best completes the meaning of the sentence, and **blacken** the letter of your choice on the separate answer sheet provided.

11. Despite the hardship we went through, _____
A. we did not expect recognition.
B. we never forget the ups and downs.
C. we all are exhausted in the process.
D. we enjoyed the process well.
12. Neither the director nor the teachers reported the case to the officials. _____, it would have been secret to the police.
A. Although the director had reported
B. If it hadn't been reported by the pupils
C. Because reporting was always good
D. Though officials already took actions

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Analytical and Logical Reasoning

Instruction: Questions 28 - 35 deal with logical and analytical reasoning. Read the given set of conditions and assumptions for each question. Then, choose the answer that you think is most appropriate among the given alternatives and **blacken** the letter of your choice on the separate answer sheet provided.

28. **Statement:** The speed in which the teacher does his duty is so fast that she gives value for seconds. She says, "Time and tide wait for no body".
Assumption I: Tasks should be submitted on time.
Assumption II: Annual leaves should be given based on employees' interest.
Assumption III: Speed of wind is faster than that of time.
Assumption IV: Relaxing before completing duties is acceptable.
 Which one of the Assumption is logical?
 A. Assumption II C. Assumption III
 B. Assumption IV D. Assumption I
29. **Statement:** Absence of rain for a couple of seasons has affected not only the productivity of the farmers but also their overall quality of life.
 Which one of the following sentences is convincing based on the statement?
 A. Lack of rain hasn't influenced the farmers' living condition.
 B. Production and life style are weakened due to absence of rain.
 C. Rain and production contradict each other to change life.
 D. Shortage of rain has no impact on the market values of production.
30. **Statement:** While some of wild lives of Ethiopia are common among the neighboring countries, few of them are endemic. Though having this wildlife is a blessing, unfortunately, they are less exploited as a resource in the country.
 Based on the statement, which of the following is true?
 A. Ethiopia's wild-life migrates to neighboring countries.
 B. The wild-lives of Ethiopia are the result of the eco system.
 C. Different ecological settings are convenient for wild-life varieties.
 D. Ethiopia is not generating adequate income from its wild-life assets.

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31. If a genuine person said, "I never met a friend I didn't like. Though I did not select people I met, I chose the one to sustain."
 What is the implication of the sentence?
 A. Never avoid people to remain with
 B. Lie in selecting people as friends
 C. Being selective in making friends.
 D. Devoid of emotion to love people.

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Read the following scenario and answer questions 32 and 33 accordingly

Scenario: Six friends a, b, c, d, e and f went together for a picnic. Three of the friends – a, c and e dressed trousers, while b, d and f wore shorts. a, b and c wore their sandals, while d, e and f wore shoes. During the picnic, while c, d and f went to watch zoo, a, e and b remained in the beach.

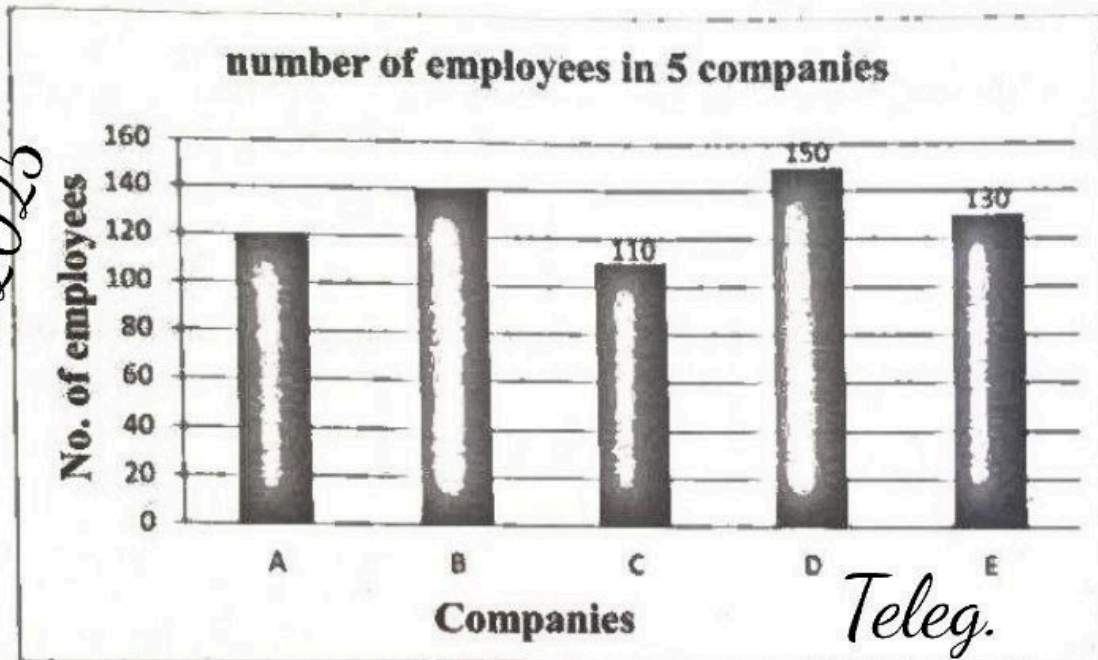
32. Based on the scenario, which of the friends went to the zoo with shoes and shorts?
 A. d C. a
 B. e D. b
33. Which one of the friends went to the beach with shorts and sandals?
 A. f C. a
 B. c D. b

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Instruction: For Questions 58 – 60 use the following information and answer each question based on the information therein.

The following bar graph shows the number of employees in five companies (A, B, C, D and E). In each company 20% of the employees are female.



58. How many employees are there in the five companies?
- A. 650 C. 530
B. 390 D. 510
59. What is the ratio of number of employees in company A to number of employees in company B?
- A. 4 : 5 C. 12 : 11
B. 6 : 7 D. 12 : 13
60. How many male employees are there in either company C or company D?
- A. 260 C. 228
B. 240 D. 208

THE END