

Scholastic Aptitude Test, 2012 EC, entrance exam

Grade 12 · Aptitude · 2012 E.C.

Time allowed: 120 minutes

Questions: 44

Total marks: 44

Name _____ Grade _____ ID No. _____ Date _____

1. He has reached across the world, fomenting violence against the west. (1)
 A. subduing B. negating
 C. instigating D. planning
-
2. Which of the following words cannot go together with the others? (1)
 A. Rain B. Snow
 C. Wind D. Sky
-
3. Read the following three statements which are followed by four conclusions. Choose the conclusions which logically follow from the given (1)
 Statements: crows are black. All black birds are loud. All crows are birds. Therefore 1. All birds are black 2. All crows are black 3. All birds are loud 4. All crows are loud
 A. Only (2) and (4) B. Only (3) and (4)
 C. Only (2) and (3) D. Only (1) and (4)
-
4. Statements: Some questions are answers. Some answers are writers. All the writers are poets. (1)
 Conclusions: 1. Some writers are answers. 2. Some poets are questions. 3. All the questions are poets. 4. Some poets are answers.
 A. Only (2) and (3) B. Only (3) and (4)
 C. Only (1) and (4) D. Only (1) and (2)
-
5. Statements: Some envelopes are gums. Some gums are seals. Some seals are adhesives. (1)
 Conclusion 1. Some envelopes are seals. 2. Some gums are adhesives. 3. Some adhesives are seals. 4. Some adhesives are gums
 A. Only 4 B. Only 2
 C. Only 1 D. Only 3
-
6. *healthy lives. Our first step might be to consider ways to increase curriculum time devoted to physical education. In addition, schools need to thoughtfully analyze the design and delivery of school physical education programs to ensure that they are engaging, developmentally appropriate, inclusive and instructionally powerful. Adapted from Test Prep Review: A resource from Mometrix* (1)
 According to this passage, regular physical activity is needed to
 A. improve ones' physical as well as mental health.
 B. improve ones' cognitive skills.
 C. lose weight.
 D. control one's blood pressure.
-
7. Which continuation is right? (1)
 I don't trust social medias. _____
 A. Never can I and never I will B. Never I have and never I will
 C. I have never and I will never D. I never have and I never will

-
8. If I were in your position, I _____ (1)
- A. Would have done such silly things. B. would never do such silly things.
C. Will never have done such silly things. D. Would never have done such silly things.
-
9. She contracted COVID 19 easily because she was obese and had other preexisting diseases. The doctor said (1)
that if she _____ obese, her chances of getting the disease would have been slim.
- A. were not B. were
C. Had been D. had not been
-
10. I: Haven't you seen this film? _____ (1)
- A. Yes, have I B. Yes, I haven't
C. No, I have D. Yes, I have
-
11. EAGLE is to BIRD as ROSE is to _____ (1)
- A. FLOWER B. ANIMAL
C. BEAUTIFUL D. GENTLEMAN
-
12. CAR is to TRANSPORTATION as GAME is to _____ (1)
- A. FOOTBALL B. MANIPULATION
C. INFORMATION D. ENTERTAINMENT
-
13. SPEED is to FAST as TEMPERATURE is to _____ (1)
- A. CLIMATE B. WARM
C. ICE D. THERMOMETER
-
14. FAST is to RUNNING as SLOW is to _____ (1)
- A. WALKING B. SPEED
C. LAZY D. PACE
-
15. CANDLE: WAX (1)
- A. PAPER: PULP B. BAMBOO: FURNITURE
C. TREE: LEAVES D. BRANCH: WOOD
-
16. CHEF: FOOD (1)
- A. BRICK: CARPENTER B. SCULPTOR: STONE
C. BRUSH: WALL D. PAINT: PAINTER
-
17. BOARD: TRAIN (1)
- A. MOUNT: HORSE B. BICYCLE: DRIVE
C. WALK: SHOE D. CHAIR: SIT
-
18. The man vehemently denied all the charges of killing that were brought against him. (1)
- A. devoutly B. carelessly
C. hysterically D. forcefully
-
19. Which word means the same as "counterfeit?" (1)
- A. copy B. match
C. robbery D. fake

- 20.** He inherited a large amount of fortune from his parents. So, he lives a very lavish lifestyle. (1)

A. spartan

B. humble

C. stingy

D. extravagant

- 21.** For Questions 36-40 Use The Following Information. (1)

The following table gives the expenditure (in millions of Birr) of a certain company per year over five years.

Year	Salary	Fuel & Transport	Bonuses	Interest on Loans	Taxes
2008	288	98	3.1	23.4	83
2009	342	112	2.52	32.5	108
2010	324	101	3.84	41.2	74
2011	336	133	3.68	36.4	88
2012	422	142	3.96	49.4	98

What is the average amount of interest on loans per year that the company has to pay during the five year period?

[Figure: A table with columns: 'year', and under 'Items of the Expenditure': 'Salary', 'Fuel & Transport', 'Bonuses', 'Interest on Loans', and 'Taxes'. Values are: - 2008: Salary = 288, Fuel & Transport = 98, Bonuses = 3.1, Interest on Loans = 23.4, Taxes = 83 - 2009: Salary = 342, Fuel & Transport = 112, Bonuses = 2.52, Interest on Loans = 32.5, Taxes = 108 - 2010: Salary = 324, Fuel & Transport = 101, Bonuses = 3.84, Interest on Loans = 41.2, Taxes = 74 - 2011: Salary = 336, Fuel & Transport = 133, Bonuses = 3.68, Interest on Loans = 36.4, Taxes = 88 - 2012: Salary = 422, Fuel & Transport = 142, Bonuses = 3.96, Interest on Loans = 49.4, Taxes = 98]

A. 36.58

B. 34.18

C. 33.72

D. 33.43

- 22.** For Questions 36-40 Use The Following Information. (1)

The following table gives the expenditure (in millions of Birr) of a certain company per year over five years.

Year	Salary	Fuel & Transport	Bonuses	Interest on Loans	Taxes
2008	288	98	3.1	23.4	83
2009	342	112	2.52	32.5	108
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2011	336	133	3.68	36.4	88
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What percent of the total amount of salary was paid as bonus by the company during the given period?

[Figure: A table with columns: 'year', and under 'Items of the Expenditure': 'Salary', 'Fuel & Transport', 'Bonuses', 'Interest on Loans', and 'Taxes'. Values are: - 2008: Salary = 288, Fuel & Transport = 98, Bonuses = 3.1, Interest on Loans = 23.4, Taxes = 83 - 2009: Salary = 342, Fuel & Transport = 112, Bonuses = 2.52, Interest on Loans = 32.5, Taxes = 108 - 2010: Salary = 324, Fuel & Transport = 101, Bonuses = 3.84, Interest on Loans = 41.2, Taxes = 74 - 2011: Salary = 336, Fuel & Transport = 133, Bonuses = 3.68, Interest on Loans = 36.4, Taxes = 88 - 2012: Salary = 422, Fuel & Transport = 142, Bonuses = 3.96, Interest on Loans = 49.4, Taxes = 98]

A. 1.25%

B. 1.0%

C. 0.5%

D. 0.1%

- 23.** For Questions 36-40 Use The Following Information. (1)

The following table gives the expenditure (in millions of Birr) of a certain company per year over five years.

Year	Salary	Fuel & Transport	Bonuses	Interest on Loans	Taxes
2008	288	98	3.1	23.4	83
2009	342	112	2.52	32.5	108
2010	324	101	3.84	41.2	74
2011	336	133	3.68	36.4	88
2012	422	142	3.96	49.4	98

In which year did the company have the highest expenditure?

[Figure: A table with columns: 'year', and under 'Items of the Expenditure': 'Salary', 'Fuel & Transport', 'Bonuses', 'Interest on Loans', and 'Taxes'. Values are: - 2008: Salary = 288, Fuel & Transport = 98, Bonuses = 3.1, Interest on Loans = 23.4, Taxes = 83 - 2009: Salary = 342, Fuel & Transport = 112, Bonuses = 2.52, Interest on Loans = 32.5, Taxes = 108 - 2010: Salary = 324, Fuel & Transport = 101, Bonuses = 3.84, Interest on Loans = 41.2, Taxes = 74 - 2011: Salary = 336, Fuel & Transport = 133, Bonuses = 3.68, Interest on Loans = 36.4, Taxes = 88 - 2012: Salary = 422, Fuel & Transport = 142, Bonuses = 3.96, Interest on Loans = 49.4, Taxes = 98]

A. 2010

B. 2012

C. 2009

D. 2008

24. For Questions 36–40 Use The Following Information.

(1)

The following table gives the expenditure (in millions of Birr) of a certain company per year over five years. | year | Items of the Expenditure | | | | | :--- | :--- | :--- | :--- | :--- | :--- | | Salary | Fuel & Transport | Bonuses | Interest on Loans | Taxes | | 2008 | 288 | 98 | 3.1 | 23.4 | 83 | | 2009 | 342 | 112 | 2.52 | 32.5 | 108 | | 2010 | 324 | 101 | 3.84 | 41.2 | 74 | | 2011 | 336 | 133 | 3.68 | 36.4 | 88 | | 2012 | 422 | 142 | 3.96 | 49.4 | 98 |

What is the total expenditure of the company in the year 2012?

[Figure: A table with columns: 'year', and under 'Items of the Expenditure': 'Salary', 'Fuel & Transport', 'Bonuses', 'Interest on Loans', and 'Taxes'. Values are: - 2008: Salary = 288, Fuel & Transport = 98, Bonuses = 3.1, Interest on Loans = 23.4, Taxes = 83 - 2009: Salary = 342, Fuel & Transport = 112, Bonuses = 2.52, Interest on Loans = 32.5, Taxes = 108 - 2010: Salary = 324, Fuel & Transport = 101, Bonuses = 3.84, Interest on Loans = 41.2, Taxes = 74 - 2011: Salary = 336, Fuel & Transport = 133, Bonuses = 3.68, Interest on Loans = 36.4, Taxes = 88 - 2012: Salary = 422, Fuel & Transport = 142, Bonuses = 3.96, Interest on Loans = 49.4, Taxes = 98]

A. 456.36

B. 586

C. 715.36

D. 1710 ≈

25. For what item or purpose was the company's expenditure the least during the given period?

(1)

A. Taxes

B. Transport and Fuel

C. Bonus

D. Salary

26. If $x = 50\%$ of 30 and $y = 30\%$ of 15, then which of the following is true?

(1)

A. The product between x and y cannot be determined.

B. y is less than x .

C. x and y are equal.

D. x is less than y .

27. Student X and student Y have 2000 Birr. If $\frac{4}{15}$ of X's share is equal to $\frac{2}{5}$ of Y's share, how much Amount does Y have?

(1)

A. 1200 Birr

B. 1100 Birr

C. 800 Birr

D. 1500 Birr

28. What is the simplified form of $(2x + 3)(x + 6) - (2x - 5)(x + 10)$?

(1)

A. 72

B. 68

C. 16

D. 32

29. If the square of a number increased by two times the number is equal to six times number increased by twelve, which one of the following is the possible value of the number?

(1)

A. -4

B. -6

C. 4

D. 6

30. The monthly telephone bill of Getachew was Birr 400 and it increases by 10% after 12 months, and another 20% increase is applied six months later. What is the price of getachew's telephone bill after 18 months?

(1)

A. 489 Birr

B. 430 Birr

C. 520 Birr

D. 528 Birr

31. The sum of the ages of the father and his son is equal to sixty years. Six years ago the age of the father was five times the age of the son. What will be the age of the son six years from now?

(1)

A. 22 years

B. 20 years

C. 19 years

D. 23 years

32. What is the sum of the following infinite series $S = 2 - \frac{1}{3} + 1 - \frac{1}{9} + \frac{1}{2} - \frac{1}{27} + \frac{1}{4} - \frac{1}{81} + \dots$? (1)
- A. $\frac{41}{9}$ B. $\frac{9}{2}$
C. $\frac{7}{2}$ D. $\frac{32}{9}$
-
33. The Triangular Number sequence T_n can be defined recursively as $T_1 = 1, T_n = T_{n-1} + n$ for $n > 1$. What is the eleventh term of the sequence? (1)
- A. 78 B. 55
C. 66 D. 45
-
34. The next term of the sequence 162,54,18,6,...equal to (1)
- A. $1/3$ B. 3
C. 2 D. 1
-
35. The first four terms of an arithmetic sequence are 39,33,27 and 21. What is the tenth term of the sequence? (1)
- A. -33 B. -27
C. -21 D. -15
-
36. The sum of the first n terms of an arithmetic progression whose first term is $2n^2 + n$, then what is the tenth term of the sequence? (1)
- A. 38 B. 41
C. 39 D. 40
-
37. What is the probability of getting exactly two tails when three coins are tossed at the same time? (1)
- A. $\frac{3}{4}$ B. $\frac{3}{8}$
C. $\frac{1}{4}$ D. $\frac{1}{8}$
-
38. What is the probability that a number selected at random from the first 50 natural numbers is prime and odd number? (1)
- A. $\frac{8}{25}$ B. $\frac{3}{5}$
C. $\frac{3}{10}$ D. $\frac{7}{25}$
-
39. If $3x + 7y = 80$ and $x - y = 10$, then what is the value of $x + y$? (1)
- A. 25 B. 20
C. 10 D. 15
-
40. Which of the following system of linear inequalities is represented by the graph given below? (1)
- [Figure: A Cartesian coordinate plane showing three solid boundary lines and a shaded triangular region between them: 1. A line passing through $(-1, 0)$ and $(0, 1)$, corresponding to $y = x + 1$. 2. A line passing through $(1, 0)$ and $(0, 1)$, corresponding to $y = -x + 1$. 3. A horizontal line passing through $(0, -1)$, corresponding to $y = -1$. The region inside the triangle bounded above by the two intersecting lines meeting at $(0, 1)$ and bounded below by the line $y = -1$ is shaded.]
- A. $\begin{cases} y \leq x + 1 \\ y \leq x - 1 \\ y \geq -1 \end{cases}$ B. $\begin{cases} y \leq x + 1 \\ y \leq -x + 1 \\ y \geq -1 \end{cases}$
C. $\begin{cases} y \leq x + 1 \\ y \leq x - 1 \\ y \leq -1 \end{cases}$ D. $\begin{cases} y \leq x + 1 \\ y \leq -x + 1 \\ y \leq -1 \end{cases}$

41. The square of the 7th term of an arithmetic progression with positive common difference is equal to the product of the 3rd and 17th terms, then what is the ratio of the first term to common difference? (1)

- A. 4:3
B. 3:2
C. 3:4
D. 2:3

42. If $(1^2 + 2^2 + 3^2 + \dots + 10^2) = a$, then what is the value of $(2^2 + 4^2 + 6^2 + \dots + 20^2)$ in terms of a? (1)

- A. $a+4$
B. $a+2$
C. $4a$
D. $2a$

43. Consider the figure given below. (1)

It is given that $PQ = RQ$. Compare the following two quantities X and Y whose information are given below. |

Quantity X | Quantity Y | | :--- | :--- | | PS | SR |

[Figure: A triangle PQR with vertex Q at the top and a horizontal base PR at the bottom. A line segment is drawn from vertex Q to a point S on the segment PR, dividing the base into segments PS and SR, and dividing triangle PQR into two triangles, PQS and SQR.]

- A. The relation cannot be determined with the information provided.
B. The two quantities are equal.
C. Quantity Y is greater than quantity X.
D. Quantity X is greater than quantity Y.

44. If $y > 2$. Compare the following two quantities X and Y whose information are given below. (1)

[Figure: A table with two columns and two rows:]

Row 1 (Headers): 'Quantity X' | 'Quantity Y'

Row 2: $\frac{3y-2}{5}$ | 'y'

- A. The relation cannot be determined with the information provided.
B. The two quantities are equal.
C. Quantity Y is greater than quantity X.
D. Quantity X is greater than quantity Y.

— END OF EXAMINATION —