

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

MAY 2016

General Mathematics Paper I

Time: 40 minutes Marks: 30

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 30 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

Correct Way	Incorrect Ways
1 (A) (B) ● (D)	1 (A) (B) (C) (D)
	2 (A) (B) (C) (D)
	3 (A) (B) (C) (D)
	4 (A) (B) (C) (D)

Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. Which of the following fractions is equivalent to 30% ?

- A. $\frac{3}{10}$
- B. $\frac{3}{100}$
- C. $\frac{7}{10}$
- D. $\frac{7}{100}$

2. Bilal had a family dinner for Rs 3,000. If he gave 15% of the bill as tip, the total amount he paid was

- A. Rs 3,450
- B. Rs 3,045
- C. Rs 2,550
- D. Rs 2,955

3. A bag contains 60 balls of red and white colour such that the ratio of red balls to white ones is 3 : 1. The number of balls of white colour in the bag is

- A. 15
- B. 30
- C. 40
- D. 45

4. A man owns a land worth Rs 600,000. If he has only one son and one daughter among his legal heirs, the inheritance of his son is

(Note: The share of son is two times that of the daughter.)

- A. Rs 200,000
- B. Rs 300,000
- C. Rs 400,000
- D. Rs 500,000

5. Raheem earns Rs 325,000 from his land. The amount of Usher he has to pay is

(Note: Rate of Usher is 10% of the earning.)

- A. Rs 325,000
- B. Rs 32,500
- C. Rs 3,250
- D. Rs 325

6. If the marked price of a watch is Rs 1200 and the selling price is Rs 1050, the rate of discount is
- A. 12.5%
 - B. 14.3%
 - C. 14.7%
 - D. 15%
7. Kashif bought a used mobile phone for Rs 5,000 and spent Rs 225 in repairs. After using it for 10 months, he sold it for Rs 2,000. He suffered a loss of
- A. Rs 3,000
 - B. Rs 2,775
 - C. Rs 3,225
 - D. Rs 5,225
8. Hina bought a cycle for Rs 2,500 and later sold it for Rs 3,000. The percentage profit that she made was
- A. 16.6%
 - B. 20%
 - C. 25%
 - D. 45.4%
9. On a certain day, if 1 UK Pound (£) = 1.17 Euro (€), then 20 Pounds (£) is equal to
- A. 23.4 Euro (€)
 - B. 17.1 Euro (€)
 - C. 2.34 Euro (€)
 - D. 1.71 Euro (€)
10. The simple interest earned on Rs 6,750 for four years at a rate of 10% per annum is
- A. Rs 2,700
 - B. Rs 9,450
 - C. Rs 270,000
 - D. Rs 945,000
11. Saad insured his car at an assessed market price of Rs 5,000,000. If the annual premium is 5% of the assessed market price, then the annual premium is
- A. Rs 25,000
 - B. Rs 47,500
 - C. Rs 250,000
 - D. Rs 475,000

12. A motor bike costs Rs 40,000 and down payment of Rs 10,000 is made. If the remaining amount is to be paid in 10 equal installments, then each installment is equal to
- A. Rs 3,000
 B. Rs 3,100
 C. Rs 3,200
 D. Rs 3,500
13. Alia earns Rs 330,000 per year out of which Rs 70,000 is tax free but 11% tax must be paid on the remaining amount. The amount of tax Alia pays is
- A. Rs 28,000
 B. Rs 28,600
 C. Rs 36,000
 D. Rs 36,300
14. A labourer is paid at the rate of Rs 80 per hour. He receives double payment for each overtime hour. How much will he be paid for working 6 hours of overtime?
- A. Rs 960
 B. Rs 620
 C. Rs 480
 D. Rs 450
15. If 15% sales tax is levied on a product costing Rs 200, then the consumer price is
- A. Rs 200
 B. Rs 215
 C. Rs 230
 D. Rs 245
16. In the given table, the cost of 1 unit of electricity is given for different ranges of total units consumed.

Total units consumed	1 – 100	101 – 200	201 – 400	400 or more
Cost of 1 unit (Rs)	7	11	20	25

In the month of January, Mr Anwar's family consumed a total of 305 units of electricity. The cost of electricity for the month of January, excluding all the taxes is

- A. Rs 3,355
 B. Rs 3,900
 C. Rs 6,100
 D. Rs 7,625
17. If $\log 3 = 0.4771$ and $\log 7 = 0.8450$, then the value of $\log 21$ will be
- A. 1.3221
 B. 0.4031
 C. 2.5350
 D. 1.4313

18. $\log 10000$ is equal to
- A. 3
 - B. 4
 - C. 5
 - D. 6
19. $\frac{72}{3^2 - 7^0}$ is equal to
- A. 8
 - B. 9
 - C. 12
 - D. 72
20. If the first term of an arithmetic sequence is 8 and the fifth term is 20, the common difference is
- A. 3
 - B. 4
 - C. 7
 - D. 12
21. The geometric means between 4 and 64 is
- A. ± 12
 - B. ± 16
 - C. ± 24
 - D. ± 34
22. The 7th term of the sequence $-3, -4, -5, -6, \dots$
- A. -7
 - B. -8
 - C. -9
 - D. -10
23. If P and Q are two non-empty sets, then according to which property is $Q \cap P = P \cap Q$?
- A. Commutative property of intersection
 - B. Associative property of intersection
 - C. Commutative property of union
 - D. Associative property of union
24. If $3x < 20$ and x is a natural number, then the set of values that make the statement true is
- A. 0, 1, 2, 3, 4, 5
 - B. 1, 2, 3, 4, 5, 6
 - C. 1, 2, 3, 4, 5, 6, 7
 - D. 7, 8, 9, 10, ..

25. If $U = \{1, 2, 3, 4, 5\}$ and $A = \{3, 5\}$ then A^c is equal to
- A. $\{\}$
 - B. $\{3, 5\}$
 - C. $\{1, 2, 4\}$
 - D. $\{1, 2, 3, 4, 5\}$
26. Domain of the binary relation $R = \{(d, 11), (e, 22), (f, 33)\}$ is
- A. $\{d, 11\}$
 - B. $\{d, e, f\}$
 - C. $\{11, 22, 33\}$
 - D. $\{d, e, f, 11, 22, 33\}$
27. The point $(-1, 2)$ lies in the
- A. I quadrant.
 - B. II quadrant.
 - C. III quadrant.
 - D. IV quadrant.
28. For $x = 5$, the value of $y = \frac{x}{25} + 1$ is equal to
- A. 6
 - B. $\frac{6}{5}$
 - C. $\frac{2}{5}$
 - D. 5
29. For a set of ungrouped data, $\bar{X} = 56.8$ and $\frac{\sum X^2}{n} = 3268.80$. The variance of the data is
- A. 6.52
 - B. 32.12
 - C. 42.56
 - D. 56.67
30. The ages in years of nine children in a group are 7, 7, 8, 9, 6, 8, 5, 8 and 10. The modal age is
- A. 6 years.
 - B. 7 years.
 - C. 8 years.
 - D. 9 years.

Please use this page for rough work

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