ASIAN UNIVERSITY FOR WOMEN

ADMISSION TEST 2018-19

APPLICANT ID: _____

PLEASE FILL UP THE BOX BEFORE STARTING THE EXAM AND MENTION YOUR
APPLICANT ID ON ALL THE PAGES

APPLICANT NAME: _____
APPLICANT COUNTRY: _____
DATE: _____

Quantitative Analysis - Set-B

# {40 MINUTES}

INSTRUCTIONS TO CANDIDATES

- **Answer all the questions.**
- **Write your answers on the answer sheet inside.**
- **You must complete the answer sheet within the time limit.**

ADMISSION TEST 2018-19

APPLICANT **ID:** _____

There are 25 questions on this question paper. Each question carries two marks.
Tick the correct option.

Consider the following chart, and answer the questions (1-2):
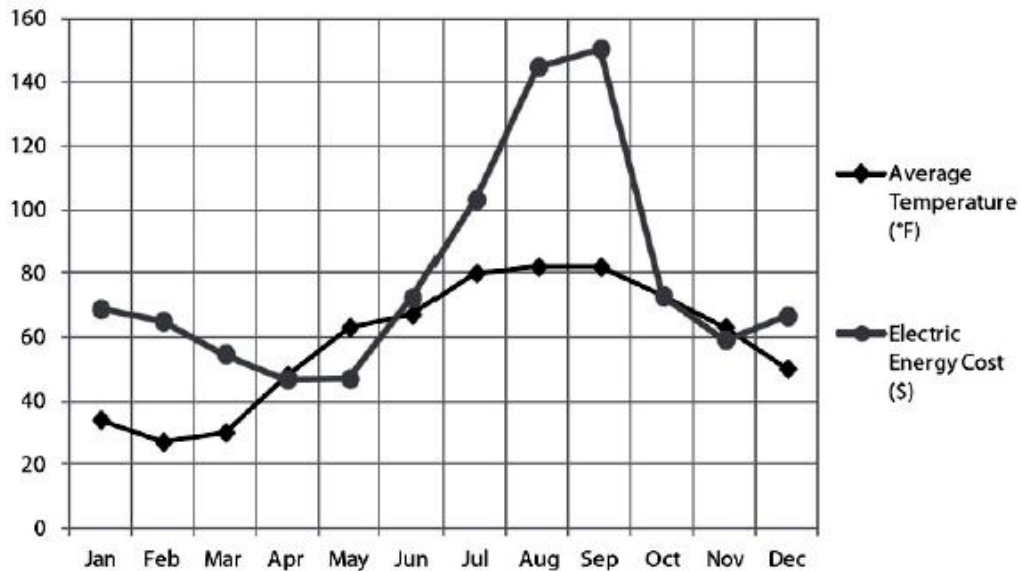

1. Which two-month period did average temperature remain constant?

   (A) Between January and February
   (B) Between April and May
   (C) Between May and June
   (D) Between June and July
   (E) Between August and September

2. Approximately what was the average (arithmetic mean) electric energy cost per month
   for the first half of the year?

   (A) $45   (B) $50   (C) $60   (D) $70   (E) $75

3. What is the ratio of male athletes to female athletes on the track and field roster shown in the following figure?
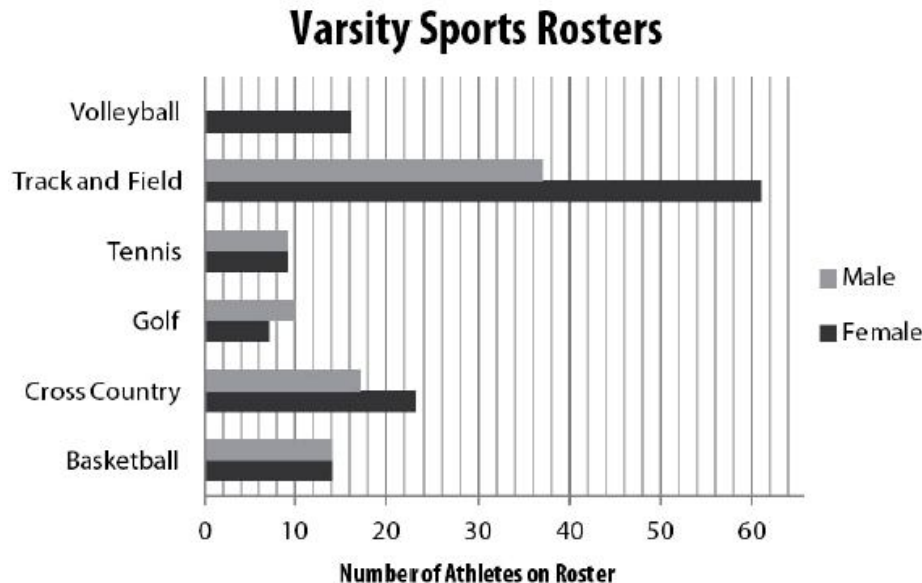
(A) $\dfrac{37}{61}$ (B) $\dfrac{9}{14}$ (C) $\dfrac{17}{23}$ (D) $\dfrac{14}{9}$ (E) $\dfrac{61}{37}$

4. What is the ratio of female tennis players to male basketball players shown in the above figure?

(A) $\dfrac{5}{12}$ (B) $\dfrac{9}{14}$ (C) $\dfrac{7}{8}$ (D) $\dfrac{14}{9}$ (E) $\dfrac{12}{5}$

5. The table shows the distribution of a team of 16 engineers by gender and level.

Gender	Junior Engineers	Senior Engineers	Lead Engineers
Male	3	4	2
Female	2	4	1

If one engineer is selected from the team, what is the probability that the engineer is a female senior engineer?

(A) $\dfrac{1}{4}$ (B) $\dfrac{3}{4}$ (C) $\dfrac{5}{4}$ (D) $\dfrac{7}{16}$ (E) $\dfrac{7}{32}$

6. The probability of rain is $\dfrac{1}{6}$ for any given day next week. What is the chance that it rains on both Monday and Tuesday?

(A) $\dfrac{1}{3}$ (B) $\dfrac{1}{6}$ (C) $\dfrac{2}{3}$ (D) $\dfrac{1}{36}$ (E) $\dfrac{1}{12}$

7. According to the chart below, the average (arithmetic mean) revenue per week per product category is $128. However, there is an error in the chart; the revenue for Pens is actually $176, not $164. What is the new, correct average revenue per week per product category?

Weekly Revenue Per Product Category at Office Supply Store *X*	
Product Category	Weekly Revenue
Pens	$164
Pencils	$111
Legal pads	$199
Erasers	$38
Average (arithmetic mean) of categories above	$128

(A) $130   (B) $131   (C) $132   (D) $164   (E) $176

8. If $10,000 is invested at a simple annual interest rate of 6 percent, what is the value of the investment after half a year?

(A) $10,500   (B) $10,600   (C) $10,400   (D) $10,300   (E) $11,000

9. Nahida has received the following scores on 3 exams: 82, 74, and 90. What score will Nahida need to receive on the next exam so that the average (arithmetic mean) score for the 4 exams will be 85?

   (A) 84　　　(B) 90　　　(C) 94　　　(D) 92　　　(E) 80

10. According to surveys at a company, 20 percent of the employees owned mobiles in 1994, and 60 percent of the employees owned mobiles in 1998. From 1994 to 1998, what was the percent increase in the fraction of employees who owned mobiles?
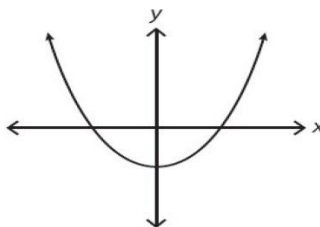
   (A) 100%　　　(B) 50%　　　(C) 250%　　　(D) 200%　　　(E) 220%

11. What will be the number if you divide 60 by $\frac{1}{2}$ and add 10?

   (A) 30　　　(B) 40　　　(C) 120　　　(D) 130　　　(E) 110

12. Which of the integers 2, 9, 19, 29, 30, 37, 45, 49, 51, 83, 90, and 91 are prime numbers?
   (A) 9, 19, 30 and 83　　　　(B) 2, 19, 29, 37 and 83　　　(C) 19, 29, 49 and 83
   (D) 2, 19, 37, 83 and 91　　　　　(E) None of these

13. Which of the following points in the coordinate plane does not lie on the following curve, $y = x^2 - 3$?

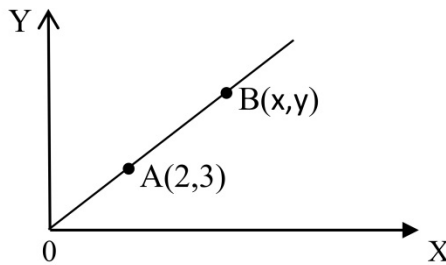   (A) $(3,6)$　　　(B) $(-3,6)$　　　(C) $(0,-3)$　　　(D) $(-3,0)$　　　(E) $(0.5,-2.75)$

ADMISSION TEST 2018-19

APPLICANT ID: _____

14. In the *xy*-plane, a quadrilateral has vertices at (–1, 4), (7, 4), (7, –5), and (–1, –5). What is the perimeter of the quadrilateral?

    (A) 18   (B) 34   (C) 32   (D) 19   (E) 17

15. Given two points $A(2,3)$ and $B(x, y)$ in the rectangular coordinate system below, if $y = 4.2$ find the value of x.

    (A) 2.6   (B) 2.8   (C) 2.9   (D) 3.2   (E) 3.0

16. $\sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{4}}}}$ is equal to which of the following?

    (A) $\sqrt{2}$ (B) 2   (C) $2\sqrt{2}$ (D) 4   (E) $4\sqrt{2}$

17. Which of the following is equal to $6^{x+y}/6^{x-y}$ for all integers x and y ?

    (A) 36^{-x} (B) 6^{-y} (C) 36^{y} (D) 36^{x} (E) 6^{y}

18. If there are 20 monkeys and 6 elephants in a Park, which of the following represent the ratio of elephants to monkeys in the park?

    (A) 3 : 13   (B) 3 : 10   (C) 10 : 3   (D) 13 : 3   (E) 1 : 26
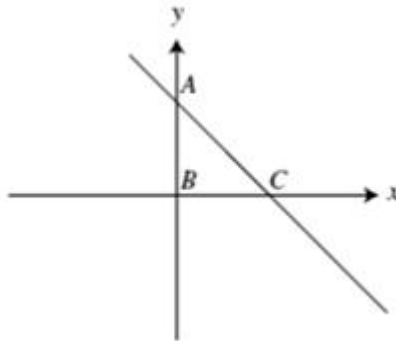
19. How many integers are in the solution set of the inequality $x^2 - 18 \leq 0$?

    (A) 2   (B) 4   (C) 5   (D) 9   (E) 10

20. If $f(x) = -x^2 + 2$, what is the value of $f(1) - f(y) = ?$

    (A) $y^2 - 1$
    (B) y^2
    (C) $y^2 + 1$
    (D) $y^2 - 2y$
    (E) $y^2 - 2y - 1$

21. The line $y = -\dfrac{9}{10}x + b$ graphed on the rectangular coordinate axis.

    Quantity A   **Quantity B**
       AB   BC

(A) Quantity A is greater
(B) Quantity B is greater
(C) The two quantities are equal
(D) The relationship cannot be determined from the information given.

22. On a number line, the distance from *A* to *B* is 4 and the distance from *B* to *C* is 5.

Quantity A	Quantity B
The distance from *A* to *C*	9

(A) Quantity A is greater
(B) Quantity B is greater
(C) The two quantities are equal
(D) The relationship cannot be determined from the information given.

23. 8 is 4% of a, and 4 is 8% of b. C equals b/a. What is the value of C?

(A) 1/32   (B) 1/4   (C) 1   (D) 4   (E) 32

24. If 2x+3y =11 and 3x+2y =9, then x+y =?

(A) 4   (B) 7   (C) 8   (D) 9   (E) 11

25. If $\frac{1}{x} + \frac{1}{y} = \frac{1}{3}$ then $\frac{xy}{x+y} = ?$

(A) 1/5   (B) 1/3   (C) 1   (D) 3   (E) 5