Instructions:

- Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.
- Each question carries 2 Marks. There is no negative marking.

1. The HCF of two numbers is 68 and their LCM is 2142. If one of the numbers is 204, the other number is:
   A. 741
   B. 742
   C. 714
   D. 357

2. $3^x = 243$, then $x$ is equal to
   A. 4
   B. 6
   C. 5
   D. 7

3. If MUSK is coded as 146816, then ZERO will be coded as:
   A. 1015
   B. 122912
   C. 1813
   D. 914

4. A bus from Sharjah leaves every thirty minutes from a bus stand. An enquiry clerk told a passenger that the bus had already left ten minutes ago, and the next bus will leave at 9:35 a.m. At what time did the enquiry clerk give this information to the passenger?
   A. 9:10 a.m.
   B. 8:55 a.m.
   C. 9:08 a.m.
   D. 9:15 a.m.
5. If P means 'division', T means 'addition', M means 'subtraction' and D means 'multiplication', then what will be the value of the expression 12 M 12 D 28 P 7 T 15?
   A. −30
   B. −15
   C. 15
   D. −21

6. A student was asked to multiply a given number by $\frac{8}{17}$. Instead, he divided the given number by $\frac{8}{17}$. His answer was 225 more than the correct answer. The given number is.
   A. 8
   B. 17
   C. 64
   D. 136

7. $(p + q)(p + q) − p^2 − 2pq − q^2$ equals ____.
   A. $2p^2$
   B. $2q^2$
   C. $4pq$
   D. 0

8. A man travelled $\frac{3}{5}$ of his journey by train, $\frac{1}{4}$ by a taxi, $\frac{1}{6}$ by a bus and the remaining 8 km on foot. What is the length of his total journey?
   A. 290 km
   B. 320 km
   C. 350 km
   D. 380 km

9. If the sum of two positive numbers is 36 and one number x is double the other, then the equation is ____.
   A. $\frac{x}{x+36} = 2$
   B. $\frac{2}{x} = x$
   C. $\frac{36-x}{36-x} = 2$
   D. $\frac{36-x}{x} = 2$

10. $\left(\frac{x^a}{x^b}\right)^{\frac{1}{ab}} \times \left(\frac{x^b}{x^c}\right)^{\frac{1}{bc}} \times \left(\frac{x^c}{x^a}\right)^{\frac{1}{ca}} = ?$
    A. 1
    B. $\frac{1}{x^{abc}}$
    C. $x^{ab+bc+ca}$
    D. None of these
11. The product of the 9 fractions \( (1 - \frac{1}{2})(1 - \frac{1}{3})(1 - \frac{1}{4}) \ldots (1 - \frac{1}{10}) = \ldots \).

A. \( \frac{10}{11} \)

B. \( \frac{1}{9} \)

C. \( \frac{1}{10} \)

D. \( \frac{1}{2} \)

12. The number of girls in a class is 5 times the number of boys. Which of the following cannot be the total number of children in the class?

A. 24

B. 30

C. 35

D. 42

13. The value of \( x \) in \( \left( \frac{3}{5} \right)^3 \times \left( \frac{3}{5} \right)^{-6} = \left( \frac{5}{3} \right)^{1-2x} \) is _____.

A. 0

B. 1

C. -1

D. 2

14. Aisha is folding together an open-topped cardboard box using this net. What is the surface area of the outside of the box?

[Diagram of a cardboard box]

A. 47 \( m^2 \)

B. 54 \( m^2 \)

C. 73.5 \( m^2 \)

D. 90.5 \( m^2 \)

15. Three numbers are in the ratio 3:4:6 and their product is 1944. The largest of these numbers is?

A. 6

B. 12

C. 18

D. None of these
16. Which fraction is added to \( \frac{2}{5} \) of \( (1\frac{7}{3} - 1\frac{2}{3}) \div 3\frac{4}{5} \) to make it a complete whole number?

A. \( \frac{47}{57} \)

B. \( \frac{57}{57} \)

C. \( \frac{52}{57} \)

D. \( -\frac{52}{57} \)

17. The traffic police recorded the speed (in km/h) of 8 cars as 47, 53, 49, 60, 39, 42, 48 and 52. Later on, an error in the recording instrument was found. Find the correct mean speed of the cars if the instrument recorded 6 km/h more in each case.

A. 55.2 km/h
B. 56.2 km/h
C. 42.75 km/h
D. 58.2 km/h

18. Salim purchased 125 stools at the rate of AED 120 per stool. The transport expenditure was AED 250. He paid octroy at the rate of AED 2 per stool and coolie charges were AED 250. What should be the selling price of each stool, if he wants a profit of 10%?

A. AED 138.60
B. AED 138
C. AED 140
D. AED 139.60

19. A man runs round a circular field of radius 50 m at a speed of 12 km/hr. What time is taken by the man to complete 20 round of the field?

A. 30 minutes
B. 32 minutes
C. 34 minutes
D. 31\( \frac{3}{7} \) minutes

20. If \( P = 2x^2 + 3xy - 5y^2, Q = -5x^2 + 2xy + 3y^2 \) and \( R = -3x^2 + 5xy - 2y^2 \), then the value of \( P + Q - R \) is

A. \(-6x^2 + 10xy - 4y^2\)
B. \(-4x^2 + 6xy - 4y^2\)
C. \(-6x^2 + 4xy - 6y^2\)
D. 0
21. Which one of the following options is the correct value of the expression \( \frac{ax+by+cz}{az+bx+cy} \), if 
\( a = 1, b = 2, c = -1, x = -1, y = 2 \) and \( z = 3 \)?
   A. 0  
   B. 2  
   C. -2  
   D. 3

22. Select the mirror image of : 2:05
   A. 5:02  
   B. 50:2  
   C. 20:5  
   D. 5:50

23. Study the given numbers carefully.
   427, 581, 839, 275, 589
Which of the following numbers will be obtained, if the second digit of the greatest number is subtracted from the second digit of the least number, after adding five to each of the above numbers?
   A. 1  
   B. 2  
   C. 3  
   D. 4

24. When we divide a number say \( x \) by 6 it leaves a remainder 3. When we divide the square of the same number by 6, what will be the remainder?
   A. 0  
   B. 3  
   C. 6  
   D. 9

25. The temperature at 12 noon was 10°C and it is falling 2°C per hour until midnight. At what time, would the temperature be 8°C below zero?
   A. 6 P.M.  
   B. 7 P.M.  
   C. 8 P.M.  
   D. 9 P.M.

26. Due to fall in manpower, the production in a factory decreases by 25%. By what percent should be working hour be increased to restore the original production?
   A. 36 \( \frac{2}{3} \)%  
   B. 34 \( \frac{1}{3} \)%  
   C. 33 \( \frac{1}{3} \)%  
   D. 26 \( \frac{2}{3} \)%
27. Find the value of $\sqrt{80} + 3\sqrt{245} - \sqrt{125} = ?$
   A. 38.6395  
   B. 44.7214  
   C. 50.2136  
   D. 3.2365  

28. A man sold an article for AED 630 and he lost 10% on it. What is the cost price of the article?
   A. AED 700  
   B. AED 720  
   C. AED 680  
   D. AED 690  

29. If the mean and mode of a given data is 51 and 48 respectively. What is its median?
   A. 48  
   B. 49  
   C. 50  
   D. 52  

30. If all sides of a hexagon is increased by 2%, find the percentage increase in its area.
   A. 6.06%  
   B. 4.04%  
   C. 10.05%  
   D. 5.08%