

COLLEGE OF TEACHER EDUCATION (PGT)

BOYCE ROAD , LAITUMKHRAH

SHILLONG – 793003

NAAC, Accredited with CGPA of 2.81 at B Grade

ENTRANCE TEST

(WRITTEN)

To

THE TWO YEAR B.Ed COURSE

ACADEMIC SESSION

2022 – 2024

DATE: 11TH JUNE 2022

SECTION – I

SUBJECT COMPETENCY - MATHS

CANDIDATE'S CODE NO:

Candidate's Code No: _____

SECTION - I

SUBJECT COMPETENCE- MATHEMATICS

(Total Marks - $1/2 \times 30 = 15$)

Tick the correct answer from the given options: (1/2x30 = 15)

- If $x = 2$ then the value of $x^3 + 27x^2 + 243x + 631$ is:
a) 1211
b) 1231
c) 1233
d) 1321
- If $x + (1/x) = 99$, find the value of $\{100x / (2x^2 + 102x + 2)\}$
a) $1/6$
b) $1/2$
c) $1/3$
d) $1/4$
- If $\{a + (1/a)\}^2 = 3$, then the value of $a^3 + (1/a^3)$ is
a) 0
b) 1
c) 2
d) 6
- If the expression $x^3 + 3x^2 + 4x + k$ has a factor $x + 5$, then what is the value of k ?
a) -70
b) 70
c) 48
d) -48
- If $p=99$, then the value of $p(p^2+3p+3)$ will be
a) 1000001
b) 999998
c) 999999
d) 1000000
- If $a=34$, $b=c=33$, then the value of $a^3+b^3+c^3-3abc$ is
a) 50
b) 100
c) 0
d) 111
- What is the largest number of 4 digits which divided by 6,9,12,15 or 18 leaves 1 as remainder in each case?
a) 9901
b) 9899
c) 1081
d) 9673
- How many 3 digit numbers, in all, are divisible by 6?
a) 140
b) 150
c) 160
d) 170
- A certain sum amount to Rs 5832 in 2 yr at 8% per annum compound interest, the sum is
a) Rs 5000
b) Rs 5200

c) Rs 5280

d) Rs 5400

10. The lengths of the diagonals of a rhombus are 24 cm and 18 cm, respectively. The lengths of each side of the rhombus is

a) 12 cm

c) 15 cm

b) 9 cm

d) 8 cm

11. If A and B are in the ratio 3: 4 and B and C are in the ratio 12: 13, then A and C will be in the ratio

a) 3:13

c) 36: 13

b) 9:13

d) 13:9

12. If CP of 5 mangoes is equal to SP of 4 mangoes, then what will be gain percentage?

a) 20

c) 25

b) 16

d) 10

13. 8 men can dig a pit in 20 days. If a man works half as much again as a boy, then 4 men and 9 boys can dig a similar pit in

a) 10 days

c) 15 days

b) 12 days

d) 16 days

14. Find the largest common divisor of 102 and 1170

a) 10

c) 6

b) 7

d) 8

15. The sum of a natural number and its square equal the product of the first three prime numbers. The number is

a) 2

c) 5

b) 3

d) 6

16. The cost price of 18 articles is equal to the selling price of 15 articles. The gain is

a) 25%

c) 18%

b) 20%

d) 15%

17. A man can row km/h in still water. If the speed of the current is 2km/h, it takes 3 h more in upstream than in the downstream for the same distance. The distance is

a) 30 km

c) 20 km.

b) 24 km

d) 32 km

18. If the cost price of 50 oranges is equal to the selling price of 40 oranges, then the profit per cent is

- a) 5
- b) 10
- c) 20
- d) 25

19. Vertical angles that are opposite to each other are also

- a) not equal
- b) opposite
- c) scalene
- d) equal

20. Two lines that make an angle are called

- a) scalene
- b) rays
- c) segment
- d) vertex

21. A polygon having 10 sides is called

- a) decagon
- b) heptagon
- c) quadrilateral
- d) hexagon

22. A triangle that has no equal sides and no equal angles is known as

- a) isosceles triangle
- b) scalene triangle
- c) equilateral triangle
- d) right angle

23. Area of a rectangle with base 'b' and height 'h' is measured by

- a) $b \times h$
- b) $b + h$
- c) b/h
- d) h/b

24. A line going through the midpoint from one side to the other side of a circle is called

- a) angle
- b) area
- c) radius
- d) diameter

25. The exterior angles of any polygon sum up to

- a) 90°
- b) 180°
- c) 270°
- d) 360°

26. A line which connects any two points on a circle is known as

- a) perimeter
- b) diameter
- c) chord
- d) radius

27. A triangle that has 2 equal sides and 2 equal angles is known as

- a) isosceles triangle
- b) equilateral triangle

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c) scalene triangle

d) right angle

28. A polygon having 9 sides is called

a) decagon

c) nonagon

b) quadrilateral

d) hexagon

29. When a polygon's all sides and angles are equal, it is said to be

a) reflective

c) regular

b) quadrilateral

d) vertical

30. The longest chord in a circle is known as

a) diameter

c) area

b) radius

d) midpoint