The Brigade School-Unit Test:2 (2020-21)

Total points 33/40

Mathematics Std: 10 Max. Marks: 40 Max. Time: 60 Min.

Email address *

manantbsg@gmail.com

Instructions: 0 of 0 points

1. Select your Name / Class& Sec / School correctly
2. Attempt all the questions
3. Ensure that you have completed and revised your paper before submission.
4. You can attempt this paper only once

Name of the Student: *

Manan Y Mehta

Class / Sec : *

10 A

Name of the School : *

TBSG

Choose the correct answer for the following questions: 33 of 40 points

[Each Question Carries 1 mark]

✓ Q1) Number of terms in the A.P. 16, 19, 22, ... , 148 is 1/1

- (●) 45 ✓
- ( ) 49
- ( ) 42

✓ Q2) Given △CAB ∽ △PQR, AB = 9cm and QR = 25cm. The ratio between △ABC and △PQR is 1/1

- ( ) 3:5
- ( ) 9:25
- (●) 81:625 ✓

✓ Q3) Volume of cylinder with radius r and height h is 1/1

- (●) area of base x h ✓
- ( ) πr x h
- ( ) 1/3 πr^2 x h

✓ Q4) The length of the shadow of 10 m high pole when the elevation of the sun is 30° is 1/1

- ( ) 20 m
- ( ) 10/√3 m
- (●) 10√3 m ✓

✓ Q5) Discriminant of a quadratic equation ax^2 - bx - c = 0 is 1/1

- b^2 - 4ac
- b^2 + 4ac ✓
- 4ac - b^2

✓ Q6) The product of Anu's age two years ago and her age 4 years from now is one more than twice her present age. Her present age is 1/1

- 17 years
- 15 years
- 3 years ✓

✓ Q7) If x = 5 is a root of the quadratic x^2 - 3x - k = 0, then the other root of the equation is 1/1

- - 2 ✓
- 10
- - 8

✓ Q8) For the A.P, 3/2, 1/2, -1/2, ... , d is 1/1

- 1/2
- - 1 ✓
- 1

✓ Q9) The sum of first 24 terms of the A.P. 5, 7, 9, ... is 1/1

- 762
- 672 ✓
- 276

✗ Q10) The areas of two similar triangles ABC and PQR are 25 sq.cm and 49 sq.cm. If QR = 9.8 cm then BC is 0/1

- 9.8 cm
- 49 cm ✗
- 7 cm

Correct answer

- 7 cm

✓ Q11) Volume of a cone is 154 cu.cm and its height is 12 cm, radius of the cone is 1/1

- 7 cm
- 3.5 cm ✓
- 14 cm

✓ Q12) The solutions of the quadratic equation 3x^2 + 5x - 2 = 0 are 1/1

- 3 and - 2
- -1/3 and 2
- 1/3 and - 2 ✓

✓ Q13) 1/1

If $M = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ *then* $M + I$ *is*

- $\begin{bmatrix} 2 & 4 \\ 6 & 8 \end{bmatrix}$ Option 1
- $\begin{bmatrix} 2 & 2 \\ 3 & 5 \end{bmatrix}$ Option 2 ✓
- $\begin{bmatrix} 2 & 2 \\ 3 & 3 \end{bmatrix}$ Option 3

✗ Q14) If the 16th term of an A.P. is 73 and 31st term is 178, then its 11th term is 0/1

- (●) 15 ✗
- ( ) 31
- ( ) 38

Correct answer

- (●) 38

✓ Q15) If △ABC ∽ △DEF , BC = 4 cm, EF = 5 cm and ar(△ABC) = 80 sq.cm , then the ar(△DEF) is 1/1

- ( ) 100 sq.cm
- ( ) 200 sq.cm
- (●) 125 sq.cm ✓

✓ Q16) Diameter of a cylinder is 14 cm and its height is 13 cm. The CSA of the cylinder is 1/1

- (●) 572 sq.cm ✓
- ( ) 1144 sq.cm
- ( ) 2002/3 sq.cm

✓ Q17) 1/1

$If\ A = \begin{bmatrix} 5 & -2 \\ 4 & 1 \end{bmatrix}\ and\ B = \begin{bmatrix} 4 & -2 \\ 4 & 0 \end{bmatrix},\ then\ A - B\ is$

$\begin{bmatrix} 1 & -4 \\ 0 & 0 \end{bmatrix}$

Option 1

$\begin{bmatrix} 9 & 0 \\ 0 & 1 \end{bmatrix}$

Option 2

$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

Option 3 ✓

✓ Q18) Volume of a cylinder is 29568 cu.cm, what will be the volume of a cone of height and radius are same as the cylinder 1/1

- 9865 cu.cm
- 9856 cu.cm ✓
- 9685 cu.cm

✓ Q19) The roots of the equation x^2 - 18x = 77 are 1/1

- 11 or 7
- 11 or -7
- ◉ none of the above ✓

✓ Q20) If the order of the product of the matrices A and I is 2 x 2, then the order of matrix A is 1/1

- 2 x 3
- ◉ 2 x 2 ✓
- cannot find

✓ Q21) Which term of the A.P. 8, 13, 18, ... is 83 1/1

- 15th
- ◉ 16th ✓
- 17th

✓ Q22) If $\triangle LMN \sim \triangle PQR$, $\angle L = 60°$ and $\angle M = 50°$, then the value of $\angle R$ is 1/1

- 50°
- ◉ 70° ✓
- 60°

✓ Q23) TSA of a cone is 3872 sq.cm, if its radius is 14 cm, its slant height is 1/1

- 14 cm
- 74 cm ✓
- 28 cm

✓ Q24) The angle of elevation of the top of a tower from a point on the ground which is 30 m away from the foot of the tower is 30°. The height of the tower is 1/1

- 17.32 m ✓
- 51.96 m
- 57.73 m

✗ Q25) Given △PQR ∽ △QST and S is the mid-point of QR. Ratio of the areas of △PQR and △QST is 0/1

- 4:1
- 1:4 ✗
- 2:1

Correct answer

- 4:1

✗ Q26) If in an A.P. a = 5 , d = 3 and tn = 50, then Sn is 0/1

- 16
- 400 ✗
- 440

Correct answer

- 440

✓ Q27) If 12 and - 2 are the roots of the quadratic equation x^2 - (m-5)x - n = 0, then m and n are 1/1

- 15 and 24 ✓
- 10 and - 24
- -5 and 12

✓ Q28) 1/1

$If\ A = \begin{bmatrix} 4 & 1 \\ 2 & 3 \end{bmatrix}\ then\ A^2\ is$

$\begin{bmatrix} 16 & 1 \\ 4 & 9 \end{bmatrix}$

Option 1

$\begin{bmatrix} 8 & 2 \\ 4 & 6 \end{bmatrix}$

Option 2

$\begin{bmatrix} 18 & 7 \\ 14 & 11 \end{bmatrix}$

Option 3 ✓

✓ Q29) If a = -1.25 and d= -0.25, then the 5th term of this A.P. is 1/1

0

-0.25

-2.25 ✓

✓ Q30) The roots of the quadratic equation 5x^2 - 6x + 7 = 0 are 1/1

- real and unequal
- real and equal
- no real roots ✓

✗ Q31) How many terms of the A.P. 24, 21, 18, must be taken so that their sum is 78 0/1

- 4
- 13
- either 4 or 13

✗ Q32) TSA of a right circular cone of slant height 15.5 m is 209 sq.cm. Radius of this cone is 0/1

- 7/2 cm
- 9 cm ✗
- 7cm

Correct answer

- 7/2 cm

✓ Q33) If in an A.P. a3 = 5 and a7 = 9 then the A.P. is 1/1

- 5, 6, 7, ...
- 3, 4, 5, ... ✓
- 5, 9, 13, ...

✓ Q34) Two consecutive integers, sum of whose squares is 365 are 1/1

- 169 and 196
- 414 and -49
- -14 and -13 ✓

✓ Q35) The quadratic equation whose solution set is {-4 , 4} is 1/1

- x^2 - 8x - 16 = 0
- x^2 - 16 = 0 ✓
- x^2 - 8x + 16 = 0

✓ Q36) If sum of first n terms of an A.P. is 480 and sum of its first (n-1) terms is 450 then the n th term is 1/1

- 50
- 30 ✓
- 27

✗ Q37) If the order of matrix A is 3 x 5 and order of matrix B is 5 x 2, then the order of the sum of the matrices A and B is 0/1

- (●) 3 x 2 ✗
- ( ) 2 x 3
- ( ) cannot find

Correct answer

- (●) cannot find

✓ Q38) If the CSA of a cone of radius 14 cm is 2200sq.cm, then its height is 1/1

- ( ) 50 cm
- ( ) 28 cm
- (●) 48 cm ✓

✓ Q39) A 15 m long ladder is set against a wall in such a way that it makes an angle 60° with the ground. The distance between the base of the wall and foot of the ladder is 1/1

- (●) 7.5 m ✓
- ( ) $10\sqrt{3}$ m
- ( ) $15\sqrt{2}$ m

✓ Q40) If the height and slant height of a cone is 24 cm and 25 cm respectively, then its volume is 1/1

- (●) 1232 cu.cm ✓
- ( ) 15085.7 cu.cm
- ( ) 704 cu.cm