REGIONAL OFFICE VARANASI

SUMMATIVE ASSESSMENT –II (2014-15)

CLASS –VIII **Maximum Marks: 60**

SUBJECT –MATHEMATICS **Maximum Time: 2 Hrs30 min.**

(i) All questions are compulsory.

(ii) The question paper consists of 26 questions divided into four sections A, B, C and D.

Section A comprises of 8 multiple choice questions of 1 Mark each,

Section B comprises of 6 questions of 2 marks each.

Section C comprises of 8 questions of 3 marks each

Section D comprises of 4 questions of 4 marks each.

Section A

Question Numbers 1 to 8 carry one mark each;

1 a^2-9b^2 has how many factors

(i) 1 (ii) 2 (iii) 3 (iv) 0

2 The number of congruent faces of a cube is:

(i) 4 (ii) 6 (iii) 8 (iv) 9

3 The side of a cube whose surface area is 294 cm^2 is:

(i) 5 (ii) 6 (iii) 7 (iv) 8

4 $\left(\frac{1}{2}\right)^{-4}$ is equal to

(i) $\frac{1}{16}$ (ii) $\frac{1}{2}$ (iii) 4 (iv) 16

5 If two quantities x and y are in inverse proportion, then the relation between x and y must be

(i) xy=1 (ii) xy=k (k is constant) (iii) $\frac{x}{y} = 1$ (iv) $\frac{x}{y} = k$ (k is constant)

6 The Cartesian plane has:

(i) 1axis (ii) 3 axis (iii) 2 axis (iv) 4axis

7 Which of the following number is divisible by 5?

(i) 339 (ii) 88 (iii) 272 (iv) 440

8 The product of 2x*y is equal to:

(i) 2xy (ii) -2xy (iii) 4xy (iv) -4xy

Section –B

Question Numbers 9 to 14 carry two marks each;

9 Add: p (p-q), q (q-r),r(r-p)

10 The area of a rhombus is 240 cm^2 and one of the diagonal is 16 cm .Find the other diagonal.

11 Plot the following points (2,0),(0,3),(1,4)and (5,2) on graph paper.

12 Factorise $a^2+10a+25$

13 Find A and B for

1	2	A
+6	A	B
A	0	9

14 Classify the following shapes into 2-dimensional and 3- dimensional shapes
(i) Square (ii) prism (iii) triangle (iv) cylinder

Section C

Question Numbers 15to 22 carry three marks each

15 Using identity find (95)*(103)

16 Simplify (a+b+c)(a+b-c)

17 Find the value of m so that $(-3)^{m+1} * (-3)^5 = (-3)^7$

18 A loaded truck travels 14 km in 25 minutes. If the speed remains the same , how far can it travel in 5 hours?

19 Observe the following table, where x and y are in inverse variation. Find P1 and P2

x	P1	200	300
y	60	30	P2

20 Factorise m^2-14m-32 and divide m^2-14m-32 by m+2

21 Find the height of cuboid whose base area is 180cm^2 and volume is 900cm^3.

22 Verify the Euler,s formula for a square prism and a cuboid.

Section D

Question Numbers 23to 26 carry four marks each

23 Simplify $\frac{3^{-5} * 10^{-5} * 125}{5^{-7} * 6^{-5}}$

24 A closed cylindrical tank of radius 7m and height 3m is made from a sheet of metal. How much sheet of metal is required?

25 Draw the graph for the following.

Side of square (in cm)	2	3	3.5	5	6
Perimeter (in cm)	8	12	14	20	24

Is it a linear graph?

26 Factorise (i) a^4-81 (ii) $q^2-10q+21$

MARKING SCHEME SA-II

CLASS-VIII (2014-2015)

SECTION- A

1 (ii) **2** (ii) **3** (iii) **4** (iv)

5 (ii) **6** (iii) **7** (iv) **8** (i)

SECTION- B

9 p (p-q), q (q-r),r(r-p)

$=p^2-pq+q^2-qr+r^2-rp$ 1Mark

$= p^2+q^2 +r^2-pq -qr-rp$ 1Mark

10

$\frac{1}{2}$ **d1*d2=Area of rhombus** 1Mark

$\frac{1}{2}$ **16*d2=240**

"d2=30 1Mark

11 ½ Marks for plotting each point

12

$a^2+10a+25$

$= a^2+2*a*5+5^2$ 1Mark

$=(a+5)^2=(a+5)(a+5)$ 1Mark

13

A=8 & B=1 1Mark each

14 (i) Square 2-D (ii) prism 3-D (iii) triangle 2-D (iv) cylinder 3-D

½ Mark for each

SECTION- C

15 (95)*(103)

=(100-5)(100+3) 1Mark

=100*100+(-5+3)100+(5)*(-3) 1Mark

=10000-200-15

=10000-215

=9785 1Mark

16 (a+b+c)(a+b-c)

$=(a+b)^2-c^2$ 1Mark

$=a^2+b^2+2ab-c^2$

$= a^2+b^2-c^2+2ab$ 2Marks

17 $(-3)^{m+1} *(-3)^5 = (-3)^7$

$so(-3)^{m+6} = (-3)^7$ 1Mark

‘m+6=7 1Mark

‘m=1 1Mark

18

	X (distance in km)	**Y (time in minutes)**
X (distance in km)	**14**	**25**
Y (time in minutes)	**Y**	**300**

$\frac{14}{y} = \frac{25}{300}$ **(direct variation)** 2Marks

Y=168 km 1Mark

19

x	P1	200	300
y	60	30	P2

P1*60=200*30=300*P2 1Mark

P1=100 & P2=20 2 Marks

20 Factorise m^2-14m-32 and divide m^2-14m-32 by m+2

m^2-14m-32

$= m^2$-16m+2m-32 1Mark

=m(m-16)+2(m-16)

=(m+2)(m-16) 1Mark

(m^2-14m-32)/(m+2)=(m-16) 1Mark

21

L*b*h=900 1Mark

180*h=900 1Mark

H=5cm 1Mark

22

	F	**V**	**E**	**F+V=E+2**
Cube	**6**	**8**	**12**	**6+8=12+2**
Square prism	**6**	**8**	**12**	**6+8=12+2**

1(1/2) marks for each

SECTION- D

23 $\frac{3^{-5} * 10^{-5} * 125}{5^{-7} * 6^{-5}}$

$=\frac{3^{-5} * (2*5)^{-5} * 5^{3}}{5^{-7} * (3*2)^{-5}}$ 1Mark

$=\frac{3^{-5} * (2)^{-5} * 5^{-2}}{5^{-7} * (3)^{-5} 2^{-5}}$ 1Mark

$=5^5$ 2Marks

24

Metal required=$2\pi r(h + r)$ 1Mark

$=2 * \frac{22}{7} * 7 * (7+3)$ 1Mark

$=44 * 10$ 1Mark

$=440\ m^2$ 1Mark

25. 1 Mark for points

2Marks for plotting

1 Mark for linearity

26 (i) a^4-81 ½ mark

$=(a^2)^2-9^2$

$=(a2+9)(a+3)(a-3)$ 1Mark

(ii) $q^2-10q+21$

$= q^2-7q-3q+21$ ½ mark

$=(q-7)(q-3)$ 1Mark