DELHI PUBLIC SCHOOL, CHANDIGARH

Summative Assessment-II, Session 2013-14
Class : VIII, Subject : Maths (Sample Paper)

Time : 3 hours MM : 90

General Instructions:

1) All questions are compulsory.
2) Section A carries 6 marks, one mark for each part.
3) Section B carries 10 marks, one mark for each part.
4) Section C carries 12 marks, two marks for each question.
5) Section D carries 32 marks, four marks for each question.
6) Section E carries 30 marks, five marks for each question.

Section – A

Q1 Choose the correct option for the following:

(i) In which of the following quadrants does the point (–7, –2) lie?

(a) I (b) II

(c) III (d) IV

(ii) What is the height of a cylinder if diameter of its base is 14cm and curved surface area is 220cm^2?

(a) 2cm (b) 4cm

(c) 3cm (d) 5cm

(iii) $\left\{\left[\left(\frac{-1}{2}\right)^2\right]^{-2}\right\}^{-1}$ = _____

(a) $\frac{1}{16}$ (b) 16

(c) $\frac{-1}{16}$ (d) –16

(iv) $8a^2b^3 \div (-2ab)$ = _____

(a) $4ab^2$ (b) $4a^2b$

(c) $-4ab^2$ (d) $-4a^2b$

(v) $x^2 - xz + xy - yz$ = _____

(a) $(x - y)(x + z)$ (b) $(x - y)(x - z)$

(c) $(x + y)(x - z)$ (d) $(x - y)(z - x)$

(vi) The equation representing the y-axis is _____

(a) x=0 (b) y=0

(c) x=a (d) y=a

Section B

Q.2 Fill in the blanks.

(i) $1m^2$ = _____ cm^2

(ii) The circumference of a circle whose radius is 'r' is given by _____

(iii) $\left(\frac{-2}{3}\right)^{-3}$ = _____

(iv) $a^m \div a^n$ = _____

(v) $2a^3(3a+5b)$ = _____

(vi) $(7^0 - 6^0 + 3^0)^{-2}$ = _____

(vii) Common factors of $3x^3y^3$, $6x^3y^2$, $9x^2y^2z$ are _____

(viii) If two quantities are linked in such a way that an increase in one quantity leads to a corresponding increase in the other and vice-versa, then such a variation is called _____ variation.

(ix) The ordinate of the point (4,-1) is _____

(x) Two mutually perpendicular straight lines X'OX and YOY', intersecting each other at the point O, known as _____

Section C

Q.3 Find the curved surface area of a cylinder, the diameter of whose base is 7cm and height is 60cm.

Q.4 If 40 metres of a cloth costs ` 1940, how many metres can be bought for ` 727.5?

Q.5 Write 3.25×10^{-7} in the usual form.

Q.6 Add $7x^2 - 4x + 5$, $-3x^2 + 2x - 1$ and $5x^2 - x + 9$

Q.7 Use a suitable identity to find $(xy + 3z)^2$

Q.8 Factorise: $m^2 - 256$

Section-D

Q.9 The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45cm and 30cm in length. Find the total cost of polishing the floor, if the cost per m^2 is ` 4.

Q.10 Factorise

a) $y^2 - 10y + 21$

b) $(2x - 3y)(a + b) + (3x - 2y)(a + b)$

Q.11 1000 soldiers in a fort had enough food for 20 days. But some soldiers were transferred to another fort and the food lasted for 25 days. How many soldiers were transferred?

Q.12 If $x = \left(\frac{4}{5}\right)^{-2} \div \left(\frac{4}{5}\right)^{-3}$, find the value of x^{-1}.

Q.13 Show that $(9a - 5b)^2 + 180ab = (9a + 5b)^2$.

Q.14 Subtract the sum of $3l - 4m - 7n^2$ and $2l + 3m - 4n^2$ from the sum of $9l + 2m - 3n^2$ and $-3l + m + 4n^2$.

Q.15 Factorise: $(x - z)^4 - x^4$.

Q.16 If each edge of a cube is doubled

a) How many times will its surface area increases?

b) How many times will its volume increases?

Section – E

Q.17 Four persons could fit new windows in a house in 6 days.

a) Two of the persons fell ill before the work started. How long would the job take now?

b) How many persons would be needed to fit the windows in 2 days?

Q.18 Using identities, evaluate

a) 98×102

b) 299^2

Q.19 Factorise the given expression and divide them as directed:

$$39y^3(50y^2 - 98) \div 26y^2(5y + 7)$$

Q.20 Draw the graph of line $3x = y$.

Q.21 a) Find the value of x for which $5^{2x} \div 5^{-3} = 5^5$.

b) By what number should $\left(\frac{5}{3}\right)^{-2}$ be multiplied so that the product may be $\left(\frac{7}{3}\right)^{-1}$?

Q.22 a) Find the height of a cuboid whose base area is $180cm^2$ and volume is $900cm^3$?

b) The dimensions of a cuboid are in the ratio 5:3:1 and its total surface area is $414m^2$. Find the dimensions.