GRADE VIII

TIME : $2\frac{1}{2}$ HOURS

MATHEMATICS

ASSESSMENT II

M.M. 80

Instructions :- Read the question paper carefully.

Write neatly and legibly with correct question numbers.

*Attempt **all** questions from **Section A** and **any four** questions from **Section B**.*

All working, including rough work, must be clearly shown and must be done on the same sheet as the rest of the answer.

Omission of essential working will result in loss of marks.

The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A(40 Marks)

(*Attempt **all** questions from this Section*)

Question :1 Choose the correct answers to the questions from the given options: **[10]**

i) If $5y + 18 = 11 - 2y$, then $y = ?$

a) (- 9) b) 18 c) (- 1) d) 5

ii) The point (5, 6) lies in _____ quadrant.

a) I b) II c) III d) IV

iii) Two quantities x and y are said to be in _____ proportion , if whenever the value of x increases , then the value of y also increases.

a) indirect b) inverse c) direct d) none of these.

iv) The perimeter of a rectangle having length = 7.5 cm and breadth = 3.6 cm is ,

a) 22.2 cm b) 12.2 cm c) 52.2 cm d) 42.2 cm

v) The fourth proportion to 3 , 5 and 21 is,

a) 35 b) 12.6 c) 25 d) 10

vi) In the ratio 6 : 5 , the antecedent is ,

a) 2 b) 6 c) 3 d) 5

vii) If the present population of a place is P and it decreases at R % per annum, then population after n years is given by,

a) $P(1 - \frac{R}{100})^n$ b) $P(1 - \frac{R}{4\,X100})^{4n}$

c) $P(1 - \frac{R}{2\,X\,100})^{2n}$ d) $P\,(1 - \frac{R}{3\,X\,100})^{3n}$

viii) A _____ is a pictorial representation of numerical data in the form of rectangles of uniform width and varying heights.

a) frequency polygon b) pie chart c) bar graph d) ogive

ix) The area of cultivated land and the crop harvested is in :

a) Direct proportion b) Indirect proportion c) Can not be determined.

x) The area of rhombus is half the _____ of its diagonals.

a) sum b) subtraction c) product d) division

Question : 2 Fill in the blanks. [5]

i) Compound Interest (C.I.) = _____.

ii) A tap can fill a tank in 9 hours. The part of the tank filled in 1 hour is _____.

iii) The coordinates of any point on the x axis is of the form _____.

iv) Area of a parallelogram = _____.

v) In a pie chart , Central angle for a component = _____.

Question :3 Write True (T) or False (F) . [5]

i) Area of a circle is given by πr sq. units.

ii) The point (0 , 2) lies on the x – axis.

iii) $(975)^2 - (25)^2 = 9{,}50{,}000$.

iv) The number of men and the time taken by them to do a job are in inverse proportion.

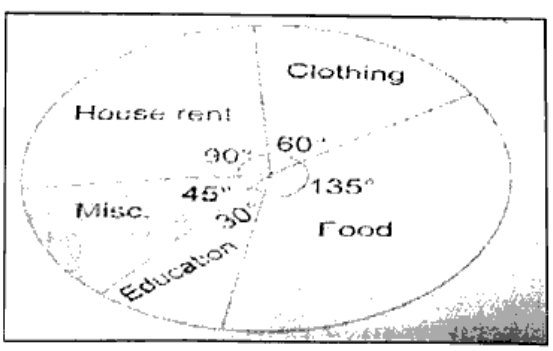
v) In a : b : : c : d , b and c are called extremes

Question : 4 Match the following :- [5]

COLUMN A	COLUMN B
i) Area of a Trapezium	a) $\frac{1}{2}$ X (*product of diagonals*) sq. units
ii) Diagonal of a rectangle	b) $\frac{1}{2}$ x (sum of parallel sides) x height sq. units
iii) Area of rhombus	c) $(side)^3$ cube units
iv) Volume of cuboid	d) $\sqrt{l^2 + b^2}$ units
v) Volume of a cube	e) base x height sq. units
	f) length x breadth x height cube units

Question : 5

i) The pie diagram given below shows the expenditure during a month on various items made by an officer in his family, earning Rs. 12000 per month. [5]



Read the pie – diagram carefully and answer the followings:-

a) How much does he spend on food ?

b) How much does he spend on education ?

c) What percentage of his income is spent on house rent ?

d) How much does he spend on miscellaneous items ?

e) What is the ratio of expenditure on clothing to that on education ?

The coordinates of three of the vertices of a rectangle are (2 , -5) , (7, -5) and (7, -2). Plot these points on the graph paper . Complete the rectangle and find the coordinates of the fourth vertex. [5]

iii) Solve :- $6 - 3(2x - 3) = 5(6 - x) - 4x$. [5]

SECTION B (40 Marks)

*(Attempt **any four** questions from this Section)*

Question : 1

a) Find the amount and the compound interest on Rs. 10,000 for 3 years at 10% per annum, compounded annually. [3]

b) Check 8 , 12 , 18 and 24 are in proportion or not. [3]

c) If 18 notebooks cost Rs. 333 , how many notebooks can be purchased for Rs. 425.50 ? [4]

Question : 2

a) The perimeter of a rectangle is 42 m and its breadth is 7.4 m. Find the length and the area of the rectangle. [3]

b) Find the lateral surface area of a cuboid which is 12 m long, 8 m broad and 4.5 m high. [3]

c) Solve : $\frac{2x+3}{3x+4} = \frac{2x-3}{3x-2}$. [4]

Question : 3

a) In which quadrant does given points lie ? A(3, 5) , B(2, -4) and C(-4, -1). [3]

b) The height of a parallelogram is one –third of its base. If the area of the parallelogram is 192 sq. cm, find the height and the base. [3]

c) Construct a quadrilateral PQRS in which PQ = 4 cm, $\angle P = 90°$, QR = 4.3 cm, RS = 3.6 cm and SP = 3.2 cm. [4]

Question : 4

a) Two pipes A and B can separately fill a tank in 36 minutes and 45 minutes respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank ? [3]

b) Factorize :- i) $9b^3 - 144b$, ii) $x^2 + 10x + 24$. [3]

c) The denominator of a fraction is 4 more than its numerator . On subtracting 1 from each numerator and the denominator, the fraction becomes $\frac{1}{2}$. Find the original fraction. [4]

Question : 5

a) Find the amount and the compound interest on Rs. 1,20,000 at 8% per annum for 1 year, compounded half – yearly. [3]

b) Factorize : - i) $16x^2 - 25y^2$, ii) $2a^5 - 32a$. [3]

c) A father is 7 times as old as his son. Two years ago, the faher was 13 times as old as his son. What are their present age ? [4]

Question : 6

a) Find the amount and compound interest on Rs. 8000 for 2 years at 6 % per annum , compounded annually. [3]

b) If A : B = 2 : 5 and B : C = 7 : 9 , then find A : B : C. [3]

c) A journey by car takes 48 minutes at 65 kmph. How fast must the car go to finish the journey in 40 minutes ? [4]

Question : 7

a) Find the length of the longest pole that can be placed in a room 12 m long, 8 m broad and 9 m high. [3]

b) The volume of the cube is 343 cubic cm. Find its surface area. [3]

c) A rod was cut into two pieces in the ratio 7 : 5. If the length of the smaller piece was 45.5 cm, then find the length of the longer piece. [4]
