GREENLAWNS HIGH SCHOOL
FINAL EXAMINATION YEAR 2018

SUBJECT : MATHEMATICS CLASS : VIII
TIME : 2 HRS. MARKS : 80

Attempt all questions from Section A and any four questions from Section B. All working including rough work must be done on the same page alongside the sum.

Section A (40 Marks)

Q.I a) Simplify using the laws of indices [3]

$$\frac{3^8 \times 3^{-7} \times 3^5}{3^6}$$

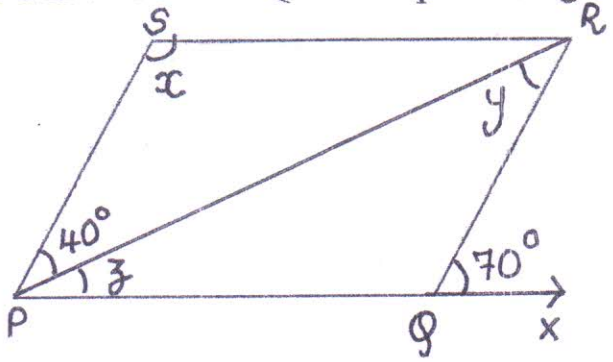
b) Subtract the sum of $(3p^2+2p+1)$ and $(-2p^2+3p-5)$ from the sum of $(5p^2-6p)$ and $(3p^2+5p-3)$ [3]

c) If Rs 7500 amounts to Rs 10,200 in 4 years at simple Interest, find. [4]

i) Rate of interest

ii) The amount if Rs. 6250 is lent out for 6 years at the same rate.

Q.II. a) in the figure drawn below PQRS is a parallelogram find x, y and z. [3]



b) Solve the following simultaneous equations. [3]

$3x+2=5$

$6x-5y=1$

c) A dealer loses 15% if he sells his goods for Rs.680. At what price should he sell his goods to gain 15%. [4]

Q.III. a) Simplify using identities [3]

$$\frac{6.39 \times 6.39 - 3.61 \times 3.61}{2.78}$$

b) Find the mean proportional between 3.6 and 8.1 [3]

c) A circular field has a circumference of 132m. Calculate the cost of levelling this field at the rate of Rs 4 per m^2 [4]

Q.IV.

a) Factorise the following $25a^2 - b^2 - 6b - 9c^2$ [3]

b) Solve the following $\frac{3x+5}{4x+2} = \frac{3x+4}{4x+7}$ [3]

c) The value of a machine reduces by 20% every year. If the present value is Rs 16000, what will be its value after 2 years. [4]

SECTION – B

(Any 4 out of 5)

Q.V a) Two angles of a quadrilateral are 120° and 50°. If the other two angles are in the ratio 11:8, find the other two angles. [3]

b) Construct a rectangle PQRS such that PQ = 5.1 cm and diagonal PR = 6.3 cm write the length of PS. [3]

c) If A : B = $\frac{5}{2} : \frac{3}{2}$ and B:C = $\frac{4}{3} : \frac{2}{5}$ [4]
find (i) A: B: C ii) A : C

Q.VI a) Solve the following quadratic equation [3]
$2y^2 + 3y - 14 = 0$

b) The interior angles of a pentagon are in the ratio 6:5:6:8:2. Find each angle of the pentagon. [3]

c) Ram's mother is four times his age. In 20 years she will be twice as old as her son. Find their present ages. [4]

Q.VII. a) Find the simple interest on Rs.2500 from December 23rd 2006 to May 18th 2007 at $5\frac{1}{2}$ % p.a. [3]

b) The marked price of an article is Rs. 28600. The shopkeeper allows a discount of 15% . Calculate (i) discount ii) Price paid by customer. [3]

c) Solve the following simultaneous equations graphically [4]

$x + y = 3$; $2x + 5y = 12$

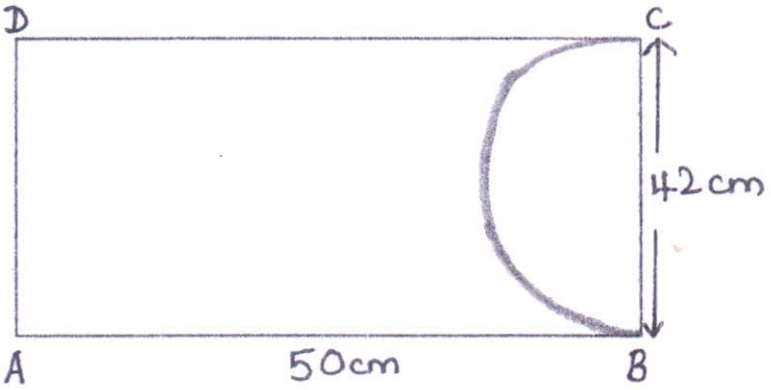
Q.VIII. a) Find the square root of 15.6816 using the long division method. [3]

b) Solve the following simultaneous equations [3]

$125x + 75y = 575$

$75x + 125y = 425$

c) A paper is cut in the form of a rectangle ABCD such that AB = 50 cm and BC = 42 cm. a semicircular portion with BC as diameter is cut off. Find the area of the remaining part. [4]



Q.IX a) The sides of a hexagon are produced in order. If the measures of exterior angles so obtained are $(6x - 1)$, $(10x + 2)$, $(8x + 2)$, $(9x - 3)$ $(5x + 4)$, $(12x + 6)$. Find each exterior angle. [3]

b) In an examination 25% students failed in English, 20% students failed in Biology. If the total number of students who appeared for the examination were 640. Find the number of students that passed in the examination. [3]

c) A boat goes 16km downstream in 2 hours and 6km upstream in 3 hours. Find [4]

i) speed of boat in still water

ii) speed of current.