

Final Term Examination 2017-2018

Std. : VII
Subject : Mathematics

Full Marks : 80
Time : 2hrs.+15mins. reading time

Section — A [20 Marks]

Question - 1

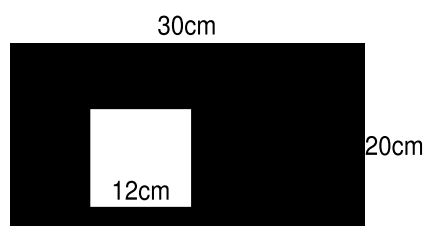
[2x10=20]

- (a) Evaluate : $6^{-2} \div (4^{-2} \times 3^{-2})$
- (b) Find the reciprocal of the rational number $(\frac{1}{2})^{-2} \div (\frac{2}{3})^{-3}$
- (c) Evaluate using identify : $135^2 - 125^2$
- (d) Divide : $(8a^2b^3c + 4ab^2c^2 - 6abc) \div (-2a^2bc)$
- (e) Solve for the variable indicated : $\frac{a}{b} = \frac{c}{6d}$ for c.
- (f) Find the square root of 55696 by division method.
- (g) Solve : $\frac{2}{5}y - \frac{5}{3} = \frac{2}{5}$
- (h) The perimeter of a square garden is 36m. Find its area.
- (i) Two complementary angles are in the ratio 2:3. Find the angles.
- (j) Factorise : $\frac{16}{81}m^2 - 121$

Section — B [20 Marks]

Question - 2

- (a) Solve : $\frac{x-1}{3} - \frac{2x-3}{5} = 1$ [3]
- (b) Which speed is greater : 54 km/hr or 15 m / sec. [3]
- (c) Find the mean proportional between 0.32 and 0.08 [3]
- (d) If $a : b = 3 : 5$ and $b : c = 6 : 7$, find $a : b : c$. [3]
- (e) Find the area of shaded region [3]



- (f) Factorise : $x^2 - ax - bx + ab$
 $3x^3y - 243xy^3$

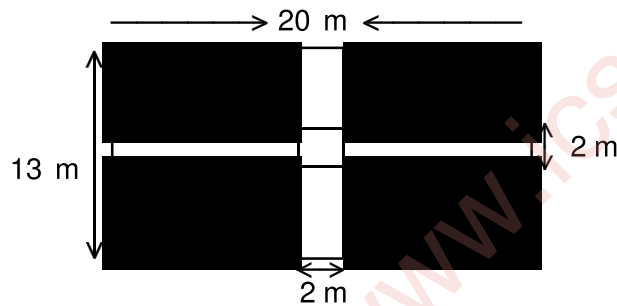
[2+3]

Section — C [20 Marks] [4x5=20]

- Q3.** (a) If $x - \frac{1}{x} = 8$, find the values of

(i) $(x^2 + \frac{1}{x^2})$ and (ii) $(x^4 + \frac{1}{x^4})$

- (b) A train crosses a flag post in 11 sec. If the length of the train is 220m, find the speed of the train ?
 (c) Find the area of the shaded region.



- (d) The following table shows the market positions of some brands of soap. Draw a suitable bar graph.

Soap Brands	A	B	C	D	E
No. of Buyers	50	35	15	40	10

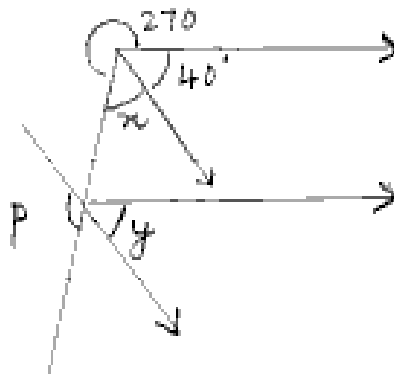
- (i) Find the mean from the following data :

x	15	40	30	10	20
f	20	10	5	15	30

Section — D [20 Marks] [4x5=20]

- Q4.** (a) Construct a ΔABC such that :
 $BC = 6$ cm $AC = 5.7$ cm and $\angle ACB = 75^\circ$.

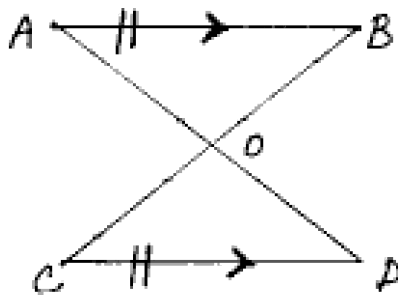
- (b) Find x , y and p in the given figure. [Give reasons].



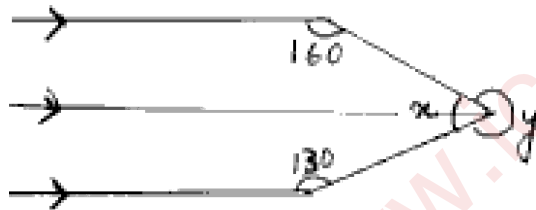
(c) In the given figure, $AB \parallel CD$, and $AB = CD$ Prove that :

(i) $\triangle AOB \cong \triangle DOC$

(ii) $AO = DO$



(d) Find the unknown angles; giving reasons.



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