Mathematics test winter coaching 2019 ( December 8)

Marks:30

Time: 1 hour

1. Mrs. Geeta deposited 350 per month in a bank for 1 year and 3 months under the Recurring Deposit Scheme. If the maturity value of her deposits is 5,565; find the rate of interest per annum. (3)

Instalment per month(P) = Rs350

Number of months(n) = 15

Let rate of interest(r)= r %p.a.



Maturity value= Rs(350 x15)+Rs(35)r

Given maturity value= Rs5,565

Then Rs(350 x15)+Rs(35)r = Rs5,565

35r = Rs5,565 -; Rs5,250

 r = 

1. Mr. Richard has a recurring deposit account in a post office for 3 years at 7.5% p.a. simple interest. If he gets Rs. 8,325 as interest at the time of maturity, find:

 i. the monthly income

 ii. the amount of maturity (4) Let the monthly deposit be P

Interest = Rs. 8,325

Rate of interest = 7.5%

Time = 3 years = 36 months



1. A dealer X in Hapur (U.P.) supplies goods/services, worth Rs. 50,000 to some other dealer Y in the same city. Now the dealer Y supplies the same goods/services to dealer Z in Calcutta at a profit of Rs. 20,000. Find

i. Output and input taxes for the dealer Y

ii. Net GST payable by dealer Y.

The rate of GST at each stage is 28% (5) For the dealer X (intra-state transaction)

SP = Rs. 50,000

For the dealer Y (intra-state transaction)

CP = Rs. 50,000

CGST = 14% of 50,000 = Rs. 7,000

SGST = 14% of 50,000 = Rs. 7,000

Input tax for dealer Y = Rs. 14,000

Profit = Rs. 20,000

SP = Rs. 70,000

For the dealer Z (inter-state transaction)

CP = Rs. 70,000

IGST = 28 % of Rs. 70,000 = 

∴ Input Tax = Rs. 19,600 which is the output tax for dealer Y.

Net GST payable for Y

= Output tax for Y - Input tax for Y

= 19,600 - 14,000

= Rs. 5600

The marked price of an article is Rs. 6000. A wholesaler sells it to a dealer at 20% discount. The dealer further sells the article to a customer at a discount of 10% on the marked price. If the rate of GST at each stage is 18%, find the amount of tax (under GST) paid by the dealer to the government. (4)

 Initial marked price by manufacturer A is Rs. 6000

B bought the T.V. at a discount of 20%.

Cost price of B = 80% of 6000 = Rs. 4800 ….(i)

GST paid by B for purchase = 18% of 4800 = Rs. 864 ….(ii)

B sells T.V. at discount of 10% of market Price

Selling price for B = 6000 - 10% of 6000 = Rs. 5400 …(iii)

GST charged by B on selling of T.V. = 18% of 5400

 = Rs. 972 …(iv)

GST paid by B to the government

= GST charged on selling price - GST paid against purchase price

= 972 - 864

= Rs. 108

1. Solve the following inequation, write the solution set and represent it on the number line.

 (4)

 6. A man buys 400, twenty-rupee shares at a premium of Rs4 each and receives a dividend of 12%. Find:

(i) the amount invested by him.

(ii )his total income from the shares.

(iii) percentage return on his money (4)

1. The sum of the heights and the radius of a solid cylinder is 35 cm and its total surface area is 3080 cm2, find the volume of the cylinder. (3)

Solution 21



1. A solid metallic hemisphere of diameter 28 cm is melted and recast into a number of identical solid cones, each of diameter 14 cm and height 8 cm. Find the number of cones so formed.

(3)

 Solution 9

Volume of the solid hemisphere



Volume of 1 cone



No. of cones formed

