

**Question No: 15 ( Marks: 1 ) - Please choose one**

If  $a$  and  $b$  are any positive integers with  $b \neq 0$  and  $q$  and  $r$  are non negative integers such that  $a = b \cdot q + r$  then

- $\gcd(a,b) = \gcd(b,r)$  (Page 207)
- $\gcd(a,r) = \gcd(b,r)$
- $\gcd(a,q) = \gcd(q,r)$

**Question No: 16 ( Marks: 1 ) - Please choose one**

The greatest common divisor of 27 and 72 is

- 27
- 9
- 1
- None of these

**Solution:**

1. Divide 72 by 27:

This gives  $72 = 27 \cdot 2 + 18$

2. Divide 27 by 18:

This gives  $27 = 18 \cdot 1 + 9$

3. Divide 18 by 9:

This gives  $18 = 9 \cdot 2 + 0$

Hence greatest common divisor  $(72, 27) = 9$ .

**Question No: 17 ( Marks: 1 ) - Please choose one**

In how many ways can a set of five letters be selected from the English Alphabets?

- $C(26,5)$
- $C(5,26)$
- $C(12,3)$
- None of these

**Question No: 18 ( Marks: 1 ) - Please choose one**

A vertex of degree greater than 1 in a tree is called a

- Branch vertex (Page 323)
- Terminal vertex
- Ancestor

**Question No: 19 ( Marks: 1 ) - Please choose one**

For the given pair of graphs whether it is