

LECTURERS IN GOVERNMENT POLYTECHNIC COLLEGES (ENGINEERING AND NON-ENGINEERING) IN A.P TECHNICAL EDUCATION SERVICE. - NOTIFICATION NO.23/2018

MATHEMATICS- 14TH MAR 2020 – S2 – REVISED KEY

Question Number : 9 Question Id : 2310982409

The integral surface of $-x^2p + y^2q = z^2$ which passes through $2xy = x + y, 4z + 2 = 0$ is:

Answer: Deleted

Question Number : 19 Question Id : 2310982419

Let $u(x)$ be a continuity differentiable function taking non-negative values for $x > 0$ and satisfying $u'(x) = 4u^{3/4}(x)$; $u(0) = 0$, then the differential equation has:

Answer:

two solutions

Question Number : 32 Question Id : 2310982432

Which of the following is true?

Answer:

If $p: S_3 \rightarrow S_3/A_3$ is natural homomorphism, then $(1,2) \notin \text{Im } p$

Z_n and $\frac{Z}{nZ}$ are isomorphic

Question Number : 41 Question Id : 2310982441

The abelian group of order 6 must be cyclic group, if it contains an element of order:

Answer:

6

Question Number : 49 Question Id : 2310982449

Let F be a field such that $a \in F$. If a is roots of $x^{27} - x \in F[x]$, then which of the following is true?

Answer:

$Z_2 \subseteq F$

$\text{Char } F = 3$

Question Number : 50 Question Id : 2310982450

Let G be a group of order 7 and let $f: G \rightarrow G$ be defined by $f(x) = x^4$. Then f is:

Answer:

an isomorphism

Question Number : 55 Question Id : 2310982455

The group G is abelian if:

Answer:

every subgroup of G is normal in G

the function $f: G \rightarrow G$, defined by $f(x) = x^{-1}$ for all $x \in G$, is a homomorphism

Question Number : 56 Question Id : 2310982456

Let N be a normal subgroup of G . Then which of the following is true?

Answer:

If G is cyclic, then G/N is abelian

Question Number : 88 Question Id : 2310982488

Consider the vectors $v_1 = (1,1,1,1)$, $v_2 = (1, 1, 2, 4)$ and $v_3 = (1, 2, -4, -3)$. Let the vectors $\{w_1, w_2, w_3\}$ be defined as:

$$w_1 = v_1$$

$$w_2 = v_2 - \alpha w_1$$

$$w_3 = v_3 - \beta w_1 - \gamma w_2$$

Then, the value of $\alpha + \beta + \gamma$ such that the vectors w_1, w_2, w_3 are orthogonal to each other is:

Answer:

$$\frac{3}{2}$$

Question Number : 125 Question Id : 2310982525

The function $f(x)=x^2$ is uniformly continuous in:

Answer: Deleted

Question Number : 141 Question Id : 2310982541

Which of the following statements is/are true for any metric space (X, d) :

1. The union of a finite number of closed sets is closed
2. The intersection of an arbitrary family of closed sets is closed
3. The union of an arbitrary family of closed sets is closed
4. The intersection of a finite number of closed sets is closed

Answer:

1, 2, 3 and 4

Only 2 and 3

Only 1 and 2