Internal Assessment Mathematics - I (B.A) set-I A-16

Sec-A

Answer the following Questions.

5 * 4 =20

Mathematics

BA

① solve $\cos x \dfrac{dy}{dx} + y = \tan x$.

② solve $(x^2 + y^2 + 2x) dx + 2y\, dy = 0$

③ solve $p^2 + 2px - 3x^2 = 0$

④ show that every subgroup of a cyclic group is ....

⑤ show that $\vec{F} = 2xyz\, i + x^2 z\, j + x^2 y\, k$ is ....

Sec-B

Answer the following Questions

$2 \times 5 = 10$

⑥. Solve $\dfrac{d^2 y}{dx^2} + a^2 y = \sec ax$ by the method of variation

of parameters.

⑦. state and prove Cayley's theorem.

B.A. I YEAR

INTERNAL ASSIGNMENT 2017 - 2018

Subject : Applied Mathematics

Section – A

UNIT – I : Answer the following short questions (each question carries two marks)   5x2=10

1. Define (i) Simple harmonic motion (ii) Simple Pendulum.
2. Explain triangle Law of Forces.
3. Explain Laws of Friction.
4. State and prove, Principle of Conservation of work and Energy.
5. Explain parallelogram Law of Velocities.

Section – B

UNIT – II : Answer the following Questions (each question carries Five marks)   2x5=10

6. Find the resultant of two parallel forces acting upon a rigid body.

7. If a particle be fixed by a string to a fixed point, and allowed to oscillate through a small angle about the vertical position, show that the time of a complete oscillation is Where I is the length of the string.

B.A. (Mathematics & Statistics) I YEAR
INTERNAL ASSIGNMENT 2017 - 2018
Subject :: STATISTICS

Section – A

UNIT – I :: Answer the following short questions (each question carries two marks)   5 * 4 = 20

1. Explain Kurtosis ?
2. Define conditional probability and Independent events
3. Define MGF and CGF
4. State and prove additive property of Poisson distribution ?
5. State the characteristics of Normal distribution ?

Section – B

UNIT – II :: Answer the following Questions (each question carries Five marks)   2 x 5 = 10

6. Derive the relationship between central moments interms of raw moments ?
7. State and Prove Bayes theorem ?