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MHT CET 2024 Question Paper (4 May - Shift 2) PCM

Ques 1. The variance of first 50 even natural numbers is
A 833
B 437/4
C 833/4
D 437

Solu. A

Ques 2. Integrate the function $\int e^x ((1 + \sin x)/(1 + \cos x))\, dx$

Solu. $e^x \tan x/2 + c$

Ques 3. The solution of the D.E. x cos y dy = ($xe^x \log x + e^x$) dx is

Solu. B

Ques 4. Find expected value and variance of X for the following p.m.f

x	−2	−1	0	1	2
$P(X)$	0.2	0.3	0.1	0.15	0.25

Solu. 2.2475

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Ques 4. If the statement p↔ (q→ p) is false, then true statement / statement pattern is

A p

B P→(pV~q)

C P ∧ (~pq)

D (PV~q) →p

Solu. B

Ques 5. The statement [(p → q) ~q] → r is tautology, when r is equivalent to

A. p ∧ ~ q

B. q V p

C. p ∧ q

D. ~ q

Solu. D

Ques 6. A lot of 100 bulbs contains 10 defective bulbs. Five bulbs are selected at random from the lot and are sent to retail store. Then the probability that the store will receive at most one defective bulb is

A. $7/5\ (9/10)^4$

B. $7/5\ (9/10)^5$

C. $6/5\ (9/10)^4$

D. $6/5\ (9/10)^5$

Solu. A

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