MTH 622 (09-09-2018)

① If Surface area of ring is $2\pi r\,dr$ and surface area of of annulus $\pi(R_2^2 - R_1^2)$. Then find mass dm of ring where mass of disc is M

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② State rotatory axis Theorem

③ Write necessary conditions for a conservative force field.

④ Write formula for transitional and rotational kinetic energy of a rigid body

⑤ Calculate M.I of small portion of hoop of mass 'δm' about an axis through centre perpendicular to plane of a ring. where 'M' is mass of Hoop and 'r' is radius. where density of hoop is $\rho = \frac{M}{2\pi r\,dr}$

⑥ $\bar{I}_x = \frac{1}{3}Mb^2$ along x-axis

$\bar{I}_y = \frac{1}{3}Ma^2$ along y-axis

Find Moment of Inertia about z-axis

⑦ $F = xz^2\hat{i} - 3yz\hat{j} + y^2z\hat{k}$ is Non-Conservative proove

⑧ Is statement ko sir ki bonjour sketch jaisa hai

$m_1 = 7kg$, $m_2 = 4kg$, $u_1 = 4m/sec$, $u_2 = 4m/sec$, $v_1 = 2m/sec$, v_2 Find krna hai

⑨ state Chasles Theorem

Questions (41)
Q = objective (30)
Q = 2 marks (4)
Q = 3 marks (4)
Q = 5 marks (3)

Total Mark (65)

objective: I irrotational Flow
(i) $\nabla \times \vec{V} = 0$ (ii) $\nabla \times \vec{V} \neq 0$
(iii) $\nabla \cdot \vec{V} = 0$ (iv) None

objective: A vector is called irrotational if
(i) $\nabla V = 0$ (ii) $\nabla \cdot v = 0$ (iii) $\nabla \times v = 0$ (iv)

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Date 26-06-18

MTH 622 Mid Term paper

① $\vec{A} = xz^2\hat{i}$ Find $\nabla.\vec{A}$

② $\vec{\gamma} = \gamma e_r$ Find velocity of particle.

③ $\phi = 3xyz$ Find $\nabla^2\phi$

④ Find unit normal vector $\hat{T}$

$\vec{r} = 2t\hat{i} + 4t\hat{j} + 1\hat{k}$

⑤ Find directional derivative

$\phi = 3x^2z$ at $(2,1,1)$

in the direction of $4\hat{i} - 3\hat{k}$

⑥ Find work done

$m = 100kg$, $v_1 = 1200\ m/s$

$v_2 = 1900\ m/s$

Mth622 my paper
Long questions
1)line integral 5 marks
2) newton 2nd law of motion 5 marks
short
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3)newton 2nd law of motion definition 2mrks
4) line integral values are given 2 mrks
5)evluate A.B then find integral 3 mrks
6) check line is depend or independent values and limits are given 3 mrks

12:21 pm

Thank you

Sadia

1)r is given...find v
and acceleration.
2)a man in a lift m
64kg..having acce
0.35ms-2.Find for
man exerts on ear
3)integral 0 to 2 li

Mcqs were easy...
Find work done.2 marks
Find curl 2
Find divergent at given points 3
integral dependent or independent prove integrl given tha.3
Prove.
del. (A x r)=r. (Del x A) 5 marks
Find work done.. mss nd initial final velocity given 5 marks

Math 622 25/6/18

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★ State Green's Theorem

★ Normalize $3x+2y+z=4$

★ If $A = xz\hat{i} - 2xy\hat{j} + yz^2\hat{k}$ then find curl of A

★ $\vec{R}$, mass and momentum given that Force field find karni thi

★ A ki value given thi and divergence theorem Prove karna tha.

Mth622
Mcqs easy thy tough ni thy
1. Divergence theorem ka question
2. Stocks theorem ka question tha
3. Irrotational proof tha 1 vector ko
4. Newton 2nd law of motion
Baqi 2 question me proof thy 2 choty choty

Mth622
Objectives conceptual
1.newton second law of motion
2.del. A=O AND del*A=0 ... Justify
2.A was given.. Find del. A
3.FOrce find mas and acceleration givn thi.
4.line integral find
5.Stoks law

Mth622
Surface integrl k 2 que
Ik directional derivative

ko
4. Newton 2nd law of motion
Baqi 2 question me proof thy 2 choty choty

Mth622
Objectives conceptual
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4.line integral find
5.Stoks law

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Surface integrl k 2 que
Ik directional derivative
Ik koi normal surface wala tha
Volume integralk long que tha
Ik green theroem sa que tha
Write statemt of green theroem
Mcqs conceptual th



1)- Define Green's Theorem. (2).

2- Find normal vector $x^2yz - 3x = 2$ at $(1,1,1)$. (5).

3)- If $\Phi dl = 4t^2$. Find $\int_c \Phi \cdot d\vec{r}$ from $t=0$ to $t=1$. (3).

4)- $\vec{A} = 2\hat{i} - 3\hat{k}$, $\Phi = y + xz$ - Find $A \cdot \nabla\Phi$. (2).

5)- A body having mass 2 moves with $\vec{r} = (2t^2+3t)\hat{i} + t^3\hat{j} - 3t\hat{k}$ having momentum $2(4t+3)\hat{i} + 6t^2\hat{j} - 6\hat{k}$. Find force. (3).

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mth622
1: def of kinetic energy nd formual
2:translatiin nd rotation ka formula
3:devergnce find krna ta
4:integral dia ta find krna therom ka
5:unit normal btna ta fig de v te
6:prependicular therom ki example te
7:1 ques torque waly s ta
or 1 mcqs tuff thy subjctve easy ta

Mth622 buht mushkil thy mcqs
Sub formula pochy thy moment of inertia sy bhara hoa paper tha
Hemisphere ka aya tha
Euler theorem defination
Scalar kinetic energy
M.I of small portion of hoop
Greens theorem defination
Long buht zyada easy thy masses given thy formula lgana tha
Orbital and spin angular momentum of moon aya tha
Mcqs buht buray [illegible]vy or short men b kaffi mushkil h[illegible]g asan thy



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Mth622
Mcqs kafi tough thy mery
3 moment of inertia of diffrent shap
3 green theorem ma say
Short q
Kinitic energy ki definition plus formolaor translational or rotional k. E energy
Solid spher ir circular disk k formuly
Long q
Moment of conservation field ka q tha.
M. I of circular disk drive krna tha
Ak or tha jis ma angular velocity given thy simple velocity find krni thy

8:12 AM

Qurat Ul Annie

Forwarded

(A)
Q: state chalas theorm (2)
Q: define k.E nd writs its formula(2)
Q:write m.i of hollow cylider(some values are given) (2)
Q: define rotational nd translational k.E nd writs their formula (3)
Q: find values of constants using initial conditions (3)
Q: find dm of disc(daigrm given) (3)
Q:find torqe(example of handouts) 5 marks
Q: module 166 qtion 5 marks
Q: module 161 example just find
I(one) 5marks

8:12 AM

Qurat Ul Annie

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622. Sphere hollow sphere walay saray formulas yad karnay hain obj sub doonon mai ay. Moment of inertia find krna tha. Mass m1 m2 given they v1 given v2 find krna tha moment of inertia se papr zyada tha coservative law ki necessary conditions likhi thi curviliniear motion ki examples likhni thi

8:12 AM

Qurat Ul Annie

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Mcqs kafi tough thy mery
3 moment of inertia of diffrent shap
3 green theorem ma say
Short q
Kinitic energy ki definition plus formolaor translational or rotional k. E energy
Solid spher ir circular disk k formuly
Long q
Moment of conservation field ka q tha.
M. I of circular disk drive krna tha

Type a message

TODAY

Farzana Kiran

mth622
1: def of kinetic energy nd formual
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4:integral dia ta find krna therom ka
5:unit normal btna ta fig de v te
6:prependicular therom ki example te
7:1 ques torque waly s ta
or 1 mcqs tuff thy subjctve easy ta

2:03 PM

Daud

Today mth 622. Mostly from mid.
Mcqs and long.
1long aya parellal axis theoran
1 law of conservative momentum
1 sHm sa
1 green theoran identiy proof krni.
Mcqs 5 from moment of inertia bqi mid sab
Short. Kinetic energy
Rot and translational energy
Aik curl sa tha aik divergence.





Mth622 my complete paper
1..diagram given.. Unit normal vector on surface? (2)
2..define moment of inertia and write expression for ixx and iyy (2)
3.. K. E and formlua. (2)
4..write izz M. I for z-axis. (2)
*5..prove that integral(c) =A.dr=0 for every closed curve del*A=0. (3)*
6..if r=acoswti+bsinwtj and p=-amwsinwti+bmwcoswtj find angular momentum? (3)
7..two masses was given and one velocity.. Find second velocity.. (3)
8..M.I shaded y=kx2. (3)
9...find D.E and initial conditions (5)
10..derive linear momentum formula(5)
11..solid circular cylinder of M.I. (5)

1