Vivekanand College, Kolhapur. (Autonomous) Department of Physics Internal Examination Notice 2019-20

Date:11 September 2019

All students of class B.Sc. I, B.Sc. II and B.Sc. III are hereby noticed that the first term internal evaluation examination is scheduled as per following time table. Nature of question paper:

For B.Sc. I: Long answer question (Any one from given two questions) for 10 marks

Short answer question (Any two from given four questions) for 10 marks

For B.Sc. II: Long answer question (Any one from given two questions) for 10 marks

Short answer question (Any two from given four questions) for 10 marks

For B.Sc. II (Astro): Long answer question (Any one from given two questions) for 10 marks

Short answer question (Any two from given four questions) for 10 marks

For B.Sc. III: Long answer question (Any one from given two questions) for 10 marks

Short answer question (Any two from given four questions) for 10 marks Internal Evaluation Examination 2019-20. SEM I, SEM III and SEM V Time Table

Sr. No.	Class	Paper	Date	Time
1.	B.Sc. I	Paper I	23/09/2019	11:00 am to 12:00 pm
2.	B.Sc. II	Paper III	23/09/2019	11:00 am to 12:00 pm
3.	B.Sc. II (Astrophysics)	Paper I	25/09/2019	11:00 am to 12:00 pm
4.	B.Sc. III	Paper V (section I)	26/09/2019	11:00 am to 12:00 pm
		Paper V (section II)	-	01:00 am to 2:00 pm
		Paper VI (section I)	27/09/2019	11:00 am to 12:00 pm
		Paper VI (section II)	-	01:00 am to 2:00 pm





(. de	HINNON EAMONY EZOF V OFFIF B.Sc. PBIL	TODE TODE Vekanand College, Kolhapur (Autonomous) (Part-I) Som Biger - I Internal Examination 20 Subject : Physics Title: Mechanics Paper No. : I	19
	Day & Date : - Tuesday, 24 th Sep 2 Time : 10:30 am to 11:30 am	2019 Tot	al Marks : 25
	Q.1 Select correct alternative 1. The term (τ/θ) is called a) twist per unit torque	c. d as b) couple per unit twist	(5)
	c) force per unit twist	d) force per unit torque	
	2. Young's modulus is		
	a) ratio of stress to the st	train	
	b) ratio of strain to the st	tress	
	c) force per unit cross se	ctional area	
	d) force per unit volume		
	3. The quantity Yak ² is ca	Illed	
	a) Geometrical M.I.	b) flexural rigidity	
	c) bending moment	d) inertia	
	4. If the total troque acting	on a system of a particles is zero, then of	the particle or system is
	conserved		
	a) linear momentum	b) angular momentum	
	c) kinetic energy	d) energy	
	5. The rate of change of any	gular momentum is	
	a) linear acceleration	b) angular acceleration	
	c) force	d) torque	
)	Q.2) Attempt any one		. (10)
	 A. State and explain work ener particle. 	rgy theorem. Also prove the law of conservation of e	energy for a system of
	B. Determine the elastic con	stants Y. n and k	
	Q.3) Attempt any two	,,,	(10)
	A. State and prove the law of	f conservation of angular momentum for a partie	(10)
	B. State and prove the law of	f conservation of linear momentum for system of	f particles
	C. Derive an expression for t	he depression of the centrally loaded hearn super	orted at both the ande
	D. Prove $C = \frac{\eta \pi r^4}{2l}$	ESTD JUNE 1964	

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"Dissemination of Education for Knowledge, Science and Culture" - Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(Autonomous)

Department of Physics

Internal exam

B.Sc.I Sem I

Date:- 23/09/2019

Attendance Sheet

Roll No.	Name Of The Student	() Luikar
7001	Chauhan Aditi Brijesh	Bunkas
7002	Bankar Ashwini Rajaram	Aconde
7003	Barwade Sammed Mahavir	therease
7004	Bhatmare Shivani Sanjay	a dila ne
7005	Chaugale Rutika Tanaji	apaula
7006	Desai Fiza Sikander	- Ela
7007	Desai Nilesh Dattatray	mana
7008	Desai Pranav Sanjay	Podicit
7009	Desai Pratiksha Jitendra	e topail
7010	Deshmukh Swapnil Vitthal	Quarter.
7011	Dhare Prajakta Ravindra	That
7012	Ghorpade Prasad Shahaji	T <u>q</u>
7013	Gurav Santosh Ananda	Arriva
7014	Jadhay Aakanksha Chandrakant	OHER
7015	Jadhay Shraddha Dinkar	Amadal
7016	Jagadale Amey Bhagawan	The we
7017	Jawale Shivam Nilkanth	(Schutter)
7018	Kabir Siddhi Suresh	tiadhi
7019	Kamble Abhishek Pandurang	-Mample-
7020	Kamble Ashlesha Ramesh	thanyoue.
7021	Kamble Ashwini Mohan	PRamble
7022	Kamble Sanket Shrimant	Finite
7023	Kamble Swapnil Babasaheb	Hadmen
7024	Kamble Vedant Chandrakant	Kample.
7025	Kandalkar Prafull Rajendra	Ph.
7026	Kane Shweta Bhausaheb	geone
7027	Khamkar Akash Baburao	Humphos
7028	Khekare Kallesh Chandrakant	Mallesn
7029	Khtangle Nishikant Nivruti	Achitangle
7030	Killedar Yogiraj Rajendra	Kalledot
7031	Kolekar Pranali Ravikant	Rotekar
7032	Koli Lalita Ramdas	Kai



7033	Koli Nandini Siddharthshankar	Dendine
7034	Koshti Shweta Jitendra	Enveta
7035	Kumathekar Kedar Sanjay	Sanar
7036	Lohar Siddhesh Ravindra	tohae
7037	Magdum Samruddhi Gunda	Sol
7038	Mane Supriya Narayan	Supris
7039	Mathew Jisna Anoop	Mather
7040	More Akshada Vijay	Alore
7041	More Madhumati Tanaji	Y.K.MM
7047	More Pranav Ashok	marces
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7043	Mugdar Akanksha Nilesh	Holina
7044	Mukkanawar Siddharth Sadanand	E PA
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7051	Patil Ashwini Ashok	E Chief 1
7052	Patil Omkar Prakasn	P P Polat
7053	Patil Prajakta Pandurang	Potree!
7054	Patil Rajnandini Pratap	Reatil
7055	Patil Rasika Shahaji	Appell:
7056	Patil Rutuja Anant	Sameridati
7057	Patil Samruddhi Arun	Stable.
7058	Patil Shriya Suresh	MODOR
7059	Powar Mrunali Ramchandra	ARaiput
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7067	Shinde Sejal Sudhir	P.P. Swill
7068	Shirke Pranali Pradeep	gesalare,
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7073	Tonpe Sejai vijay	Epare
7074	Ubare Sakshi Sanjay	SKU
7075	Vadicharla Sandnya Krushnamuru	At Seen
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7080	Ambekar Sakshi Mohan	Cation:
7081	Bagadi Shivani Prashant	Standards.
7082	Bam Shruti Harish	at an
7083	Belvalkar Surabhi Mahesh	Smeraka.
7084	Chougule Sanket Ranvidra	- heigule
7085	Chougule Suyash Praveen	Spelme.
7086	Davang Omkar Tanaji	Cmkpt.
7087	Desai Kayym Dadaso	Kon .
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7089	Dhamanekar Deepa Anil	Thomasekar
7090	Dhokare Sushant Digambar	Slokal
7091	Doke Vaibhav Eknath	Ville
7092	Fadtare Sourabh Pratap	Stadator
7093	Firinge Rupesh Maruti	Finge
7094	Gandure Manoj Dhanaji	MDGandure.
7095	Ganeshacharya Digvijay Yashawant	Flames
7096	Gopane Siddhanath Chandrakant	Gente
7097	Gove Vaishnavi Shashikant	Bore.
7098	Gudami Shriniyas Mallappa	groc-
7099	Gundakalli Sakshi Sachin	836.
7100	Injar Pavan Satappa	Cine
7101	Jadhay Ankita Sanjay	Ankita
7102	Jadhay Nikhil Jotiram	Madhar.
7103	Jamadar Saad Akhtarhusen	Hans.
7104	Kadam Sandesh Santosh	Eadam
7105	Kadvekar Vaibhav Maruti	V. M. Kanarra
7106	Kamble Subodh Prashant	Sample
7107	Kenjalekar Akash Shamrao	and enjoy
7108	Khanaj Ketan Dattatray	110102
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7112	Lad Abhijeet Keraba	Alag.
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7120	Mujawar Saniya Niyaj	Prujavar .
7121	Mullani Junaid Shahabuddin	Joi faur
7122	Naik Mitali Vijay	Phile
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7126	Patane Satyajeet Sudhakar	gabar .



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7133	Patil Asitkumar Uttam	nongi.
7134	Patil Asmita Ramesh	Asmila
7135	Patil Avdhoot Laxman	-pulip .
7136	Patil Harshvardhan Ashok	Finalit
7137	Patil Kalyani Pandurang	tPati-
7138	Patil Milind Mahadev	M.M Patil.
7139	Patil Niranjan Annasaheb	D Ciser Martifica
7140	Patil Pranita Rajendra	table
7141	Patil Prathamesh Rajesh	Pratil
7142	Patil Rajvardhan Ashok	Capat .
7143	Patil Rohini Vilas	Ratil
7144	Patil Rushikesh Ramrao	£P.C .
7145	Patil Sakshi Babgonda	gatil -1
7146	Patil Sarika Sahadev	SSPARI
7147	Patil Shreya Shahaji	R G Mlil
7148	Patil Snehal Suresh	chabil
7149	Patil Suhas Vikram	Support
7150	Patil Sumit Sambhaji	Estimat
7151	Patil Tushar Nayaku	Frishing
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7155	Potdar Abhishek Sharad	Addre
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7162	Shinde Aniket Vasant	Sonker
7163	Shinde Karankumar Ashok	- Aligenere
7164	Shirkande Sahil Bhauso	- Caret
7165	Sutar Swagat Dadaso	- Desicion
7166	Sutar Yogita Vasant	acycrist
7167	Tahasildar Raj Ramesh	
7168	Yogi Sanjay Badrinath	Canta .
7169	Avadhut Pradnya Sunil	Nencoya
7170	Awale Dayasagar Rajendra	DETTUDAL
7171	Bagade Aditya Kumar	AKBRIGH
7172	Bagade Apoorva Kumar	ALRONK
7173	Bagwan Umrajiya Shakil	(Enguer-



7174	Bodekar Shreyasi Sharad	Falikate
7175	Bhusnar Shaniraj Dattatray	El ulon.
0-12	Bodake Tejaswini Shahaji	- townline
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7180	Chougale Suyarna Shiyaii	Thurde-
7181	Chougule Sapana Anil	Gentiti
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7194	Jathay Aarati Sunil	Tulhau
7195	Jadhay Ankita Rashunath	Tulita
7190	Jadhay Monali Santosh	Nur
7197	Lathay Pranoti Prakash	- Indijan
7193	Jadhay Shila Thayaru	And2:
7200	Jactan Shital Bharat	Satal
7201	Kadam Shrutkirti Rangrao	jadam.
7202	Kalantre Neha Namdev	Okan
7203	Kalkutaki Vishal Babasaheb	198:45
7204	Kamble Amruta Suresh	-sampe.
7205	Kamble Anjali Sanjay	Alamaic
7206	Kamble Harsha Babaso	Hamble.
7207	Kamble Manoj Sanjay	Asemple
7208	Kamble Shirish Sanjay	Famble
7209	Kamble Shridhar Balu	Bankle
7210	Kamble Swapnagandha Dilip	Sample
7211	Kamble Vishal Natha	Kiniste.
7212	Karale Priyanka Bharat	Karale
7213	Kawthekar Safia Mohammad Rafiq	astia.
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7-21	Lobar Prajakta Prakash	Pahate
7222	Lobar Sushma Madhukar	Tohaz
1	Maedum Pranali Manik	Martin
7225	Mahadik Ishwari Sadashiy	Impadik
7223	Mahadik Ishiwari Sadashiri Mahita Prarana Pravin	Iniqual
7220	Muiawar Aaliya Altaf	Mulawar
7227	Mujawar Asifa Ramian	X SIDD
7228	Mujawar Asha Kanjan	Figural.
7229	Mujawai Famin Sajid	Anilani
7230	Mulani Arbaz Fullus	NERRA
7231	Nalawade Poonam Plakasn	Sumot
7232	Navale Sumit Kajendra	Simbakan.
7233	Nimbalkar Samiksha Ramchandra	Conta
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7236	Patil Aditi Atul	7 cm
7237	Patil Dhairyashil Sagar	TEL
7238	Patil Harshada Hambirrao	Flat
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7241	Patil Radhika Nivas	Fall
7242	Patil Rajvardhini Jaysing	Kajuaran
7243	Patil Samrudhi Rajendra	Path
7244	Patil Shivani Keraba	Patt
7245	Patil Shreyas Eknath	Tall
7246	Patil Snehal Maruti	Pade
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7251	Pol Mrunal Rakesh	Presover
7252	Ranage Snehal Kundan	ganage_
7253	Sakhare Aaishwarya Rajendra	Bakage
7254	Salavi Akanksha Rajaram	- Acquair
7255	Salavi Sonali Mahadev	oppath
7256	Salvi Pratiksha Prakash	Spalvi
7257	Sarvagode Priti Vikas	Baragoae
7258	Savtekar Priyanka Shekhar	Raticas
7259	Sawant Shreya Gopal	Sawan
7260	Sayyad Aarzoo Salim	Dayegaor
7261	Sayyad Zeenat Salim	Crayfad.
7262	Shelar Samiksha Umesh	Shelan
7263	Shevale Yogiraj Shivaji	Logizar.
7264	Shinde Abhishek Sunil	Ashinde.
7265	Shinde Nayan Harishchandra	Hayan
7266	Shinde Tejasvinee Sunil	Thinde.
7267	Shivatankar Shubham Anant	Stuppan.



7268	Suryawanshi Pratiksha Suryakant	Fratiksha
7269	Talkar Akanksha Vijay	Terkal-
7270	Talkar Pratiksha Vijay	Palkon
7271	Tirale Samiksha Dattatray	Samiksher
7272	Vanjari Koustubh Appasaheb	Variari
7273	Waghmare Pratik Pandit	Kachmare
7274	Wakrushe Divya Vitthal	Datas.
7275	Yadav Aditi Sudhir	Audary.
7276	Yevaluje Swapnali Madhukar	Foralije
7277	Zende Manaswini Milind	Bende
7278	Bhopale Animesh Sunil	ABhepale_
7279	Chavan Aishwarya Sunil	Atavas
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7281	Dabade Shweta Shiyaji	Pabade
7287	Desai Akanksha Anil	Tesas
7282	Dinde Rutuia Amar	Bade
7203	Ekal Sanket Sarierao	Ekal
7284	Ekal Saliket Saljelao	Griadi
7285	Garadi Saniya Hardin	Varalian
7286	Jadnav Valshilavi Kavaso	Jamadae.
7287	Jamadar Tasmiya Kasmi	Khotat,
7288	Kharat Komal Laxinan	Electede
7289	Korde Shreya Ranui	Fugaii:
7290	Kugaji Bhargavi Raining	Paradum.
7291	Magdum Rajvardnan Satappa	Alikalie
7292	Nikalje Aarti Fulchand	Batis
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7300	Arada Samadhan Anil	Brade.
7301	Chavan Pratik Pradin	E Davan.
7302	Dabade Amruta Shahaii	Appenta
7303	Giri Poonam Saniay	(Fire)
7304	Inamdar Ruturai Sharad	Frandou .
7306	Jadhay Savali Vijay	Sayali
7300	Kadwale Ananya Balwant	Fadure
7308	Kativar Kajal Lakhmichand	KAK
7309	Katyar Preeti Manohar	(PR);
7310	Khandare Pankaj Vishnu	Grandare.
7311	Khurandle Vaishnavi Rajendra	Khandare.
7312	Mahadik Akshata Suhas	Anahadik
7313	Mali Karishma Ratanlalji	Rali
7314	Mulla Ashrafalli Akhtarhusen	Aula
7315	Patil Aadesh Satish	AFatil
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7316	Patil Abhishek Ajit	Apathe.
7317	Patil Nikita Subhash	SPat 1
7318	Patil Santosh Subhash	SAFOLIT
7319	Patil Siddharth Subhash	SSGIT
7320	Patil Snehal Sanjay	Snepat
7321	Prabhavale Uditanshu Sarang	USBALL
7322	Pusalkar Tanay Dhaval	Fasalkar
7323	Sankpal Prajakta Pandurang	P.P. Sele.
7324	Shinde Kriti Pravin	Treili
7325	Sutar Harshada Sanjay	Alsura
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7293	Nirmale Snehal Sudhakar	SEND

Internal Examinar. Mu (pro M. M. Kavanjkar)



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So the above equation follows the low of conservation of avery autording to which we can only transfer energy from to another Also, here the work done is the work done by all forces awing on the body like gravity friction, external force etc. Acording to work energy Heaten, work done by all the forces = change in kinetic energy. Wg + Wo + Wf = kf - kiMore ly a constant force More the eq" it notion $V^2 = U^2 + 2as$ $2as = V^2 - u^2$ Multiplying both sides with mars m, $(mas) = (mv^2 - mu^2)$ $F.S = mv^2 - mu^2$ Comparing the above equation we get. Work done by force (F) = F.S. Where, S is the displacement of the lody. JUNE 1964

ज्ञान, विज्ञान आणि सुसरक	-शिक्षणमहर्षी डॉ. बापूजी साळुंखे and Shikshan Sanstha Kolhapur's
VIVEKANAND COLLEGI	E, KOLHAPUR (AUTONOMOUS)
SUPPLIMENT	Signature of Supervisor
Suppliment No. : 12 Roll No. : 7018	Subject : Mechanics Test/Tutorial No. : Internal Exam.
Class : B.Sc I	Div. :
of the body. This is If can be presented a kp = where, kF = fina ki = Initi	known as work-energy theorem. kj = W I. kinetic energy al kinetic energy.
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Q.33 Let a beam be supported horizontally on two knife edges at A and B. Let it be loaded in the C> Let middle al G with a weight my2 C ma The middle part of the beam is horizontal hence the beam be considered as equivalent to to up inverted Lis length of the beam, the length of each cantiliver is L/2 depression of C below A and B is The mg13 mg 12)1 1/2 487I. beam is circular cross-section then, the is radius of its cross-section where, <u>MgL³ × 4</u> 487 × Tr4 mg13 12471.4 JUNE 1964

Section of breadth to and depth of we have Iq = 6d3/12 for such beam V= mg L3 12 487 x bd3 mg L3 Lybd3 Young's moduluy of the material of the bar is colcutated $Y = mgL^3$ 4bd³Y Q.13 1) d'il force per unit twist 27 a) satio of streess to the strain F 35 c) bending moment b) angular momentum 45 b) angular acceleration. JUNE

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)	
Supplin Roll No Class	SUPPLIMENT nent No.: : 7035 : 8.ScI : 8.ScI : Supervisor Signature of Supervisor Supervisor Subject: Mechanics Test/Tutorial No.: Internal exam Div.:
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2	have a three and the second se
A)	According to work energy theorem, the net work
	on a body is equal to the change in kinetic
	work - Energy Theorem. It can be mesented
1	as
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so the above equation follows the law of conservation of energy, according to which we can only transfor energy from one form to another. Also, here the work done is the work done by all forces acting on the body like gravity, friction, According to work energy theorem, work done by all the forces = change in kinedic Energy. Wg + WN + WF = KF - Ki work done by a constant force $V^2 = .4^2 + 2as$ $2as = .V^2 - u^2$ Multiplying both sides with mass 'm' $(ma).s = (mv^2 - mu^2)$ $F.S = (m\chi^2 - m\chi^2)$ 08 comparing the above equation, we get Work done by force (F) = F.S where is is the displacement of the body.

0.3 c. Let a beam be supported horizontally on two knife -edges at A and B. Let it be loaded in the middle c with a weight mg. The middle part of the beam is horizontal, hence the beam may be considered as equivalente to two inverted contilevers which are fixed atc. If L is length of the beam, then length of each cantilever is 1/2. The depression of a below A and B is $y = (mg_{12}) (L_{12})^3 \qquad mg_{13}^3 \qquad (1)$ $3 Y L_g \qquad 48 Y L_g$ Tf the beam is circular cross-section $Then Tg = Tr^4$ 4where, r is radius of its cross-section. $y = \frac{m_{g}}{48} \frac{3}{\pi r^{4}} = \frac{m_{g}}{12} \frac{3}{\pi r^{4}} = (2)$ If the beam be of rectangular cross-section, of breadth b and depth d, we have $T_g = bd^3/12$ For such beam (SCOLLEGE) JUNE

 $y = \frac{mgL^3}{48.7} \times \frac{12}{bd^3} - \frac{mgL^3}{47bd^3}$ Young's modulus of the material of the bar is calculated as $\Upsilon = mgL^3$ 4bd³.y 4 APUR 1964 न्त्रकानव 1 - 1