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





Shri Swami Vivekanand Shikshan Sanstha's

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Vivekanand College, Kolhapur (Autonomous)

Internal Examination 2019-20

B.Sc. II SEM III

General Physics, Sound and Acoustics and Electronics and Semiconductor Devices

Time: 30 Minutes	Marks: 20
Q. 1. Long Answer Questions (Any one)	(20)
1) What is gyrostatic pendulum? Obtain an expression for its period.	
2) Explain construction and working of cathode ray tube.	
Q. 1. Long Answer Questions (Any one)	(20)
1) Write a note on riding on bicycle.	
2) Write a note on a rifling of Barrel of Gun.	
3) Write a note on Lissious figure with examples.	



"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.II Sem III

Date:- 23/09/2019

Attendance Sheet

Roll No. Name Of The Student		Signature
7550	Bachche Aomkar Prakash	P.
7551	Banasavade Omkar Devadas	Bronda.
7552	Bhatale Sachin Sakharam	Epatale
7553	Gole Gaurav Rajaram	toleg
7554	Gurav Rutuja Ravindra	Twee
7556	Khandekar Pooja Sanjay	Keacid
7557	Khatangale Shubhangi Prakash	Chatangle
7558	Khatkale Prashant Prakash	(HA)
7559	Kudalkar Prajakta Shivaji	Rudallee
7560	Mali Rohit Maruti	Fridi
7561	More Shubham Laxman	Deplaval.
7562	Padaval Vaibhav Sadashiv	Vauphan
7563	Parab Vinayak Sumant	Adu
7564	Patil Aakansha Bhimarao	FY du
7565	Patil Akshay Dhanaji	spry.
7566	Patil Aniket Ananda	Than
7567	Patil Anuja Dattajirao	Fratin
7568	Patil Prajkta Krushnat	gali
7569	Patil Shivani Vishnu	gatur
7570	Pawar Aakash Anandrao	Anarra -
7571	Pirai Omkar Baban	gom
7572	Rane Rohit Ramdas	Kane
7573	Salokhe Atish Pundlik	Adokhe
7574	Satbige Shivanand Sanjcev	- Tielar
7575	Sayyad Alsaba Javed	Ataba
7576	Shelar Avinash Sanjay	Athelar.
7691	Chavan Satish Rangrao	Cshavan .
7692 Chokakkar Viraj Vijay		Spokalcar
7693 Chougale Tejaswini Bajirao		Strongule
7694 Chougule Snehal Anil		Snepat
7695	Chougule Abhinandan Mahaveer	Ampage



7696	Dalavi Pandurang Narayan	Philip
7697	Desai Vikram Jayaram	Achievent_
7698	Desai Ashwini Amarsinh	(Amirita)
7699	Gaikwad Amrita Prakash	Chin lo M
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7701	Ghorpade Dattatray Vishnu	Televide
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7709	Karade Yogesh Nitin	Nkhambe
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7711	Khandekar Sandip Sukumar	
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7727	Patil Prakash Ananda	Retur
7728	Patil Rutuja Bhanudas	Brathe
7729	Patil Shilpa Shivaji	
7730	Patil Sunita Ashok	Staty
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7735	Sardesai Rutuja Rahul	Bawar
7736	Savant Komal Anil	Apotra
7737	Sharma Ankita Raviraj	Gavali
7784	Gavali Santosh Vasudev	Chorpad
7785	Ghorpade Sunil Uttam	Alamble
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7787	Magar Shwetali Subhash	- And
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7812	Jadhav Digvijay Suresh	Linhav
7812	Jangam Shivkrupa Pramod	Jand
7813	Karale Shubham Mansing	Fighe
7814	Kasar Siddhant Shashikant	Faigh
7815	Kashidkar Kishor Balaso	EKB.
7817	Kasture Yashdeep Anand	Stales
7818	Kodag Sneha Shivaji	Skodag!
7819	Kumbhar Akshay Dadaso	Auntho
7820	Marathe Kunal Sandeep	KMazathe
7821	Mullani Kashish Sameer	Aulani
7823	Nikam Sncha Bajarang	- Alikum
7823	Nirmalkar Mayuri Chandrakant	M. Nirmalka
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7825	Patil Akanksha Dhanaji	April 1
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7843	Shinde Manisha Appasaheb	Mehinde
7844	Shinde Neha Dattatray	Nelvide
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7846	Shinde Rutuja Sunil	St uther 1
7847	Shirale Sayali Rajendra	Consali
7848	Tandale Purva Shirish	Faryble
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7850	Vadgave Sakshi Shamsundar	Eatthi
7851	Suryvanshi Smital Jaysingrao	Emital
7852	Bedagkar Gauri Rahul	(gredogkar
7853	Chavan Ramchandra Ashok	Pravan
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7856	Jadhay Nikhil Sandeep	Nadhay_
7857	Kalgutkar Aakash Rajendra	Acappleta
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7860	Patil Omkar Dhanaji	CPadu -
7861	Patil Omkar Janaba	Raikee
7862	Sarnaik Kunal Ketan	Kksaman
7863	Shaikh Soufeen Shahmahmad	Smith
7864	Shetke Pushkraj Umesh	Steple
7865	Shinde Siddhesh Shivaji	Sshinde.
7866	Waghmode Kiran Bhimrao	(KD-
7867	Yadav Durga Vaijanath	Freich
7868	Gharale Karan Manohar	Kahole.
7555	Kanade Priyanka Swatantryakumar	(FD).
7870	Kalugade Sourabh Ravindra	Falgade
7871	Sawant Arati Ashok	Aacount
7872	Shetke Atharav Sanjay	Anethe
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Internal Examinar. Dr. Trupti. U. Vountar



।। ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ।। - शिक्षणमहर्षी डॉ. बापूजी साढुंखे 34062 Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)			
SUPPLIMENT	Signature of Supervisor		
Suppliment No. : Roll No. : 7561 Class : BSC-TL	Subject: Sound and Acoustic Test / Tutorial No.: Div.:		
Q1.	to stand the stand		
Electrical Sign Electron gun f The electron b	tube is heast of in tube of Special ape and Convents an nal into Visual form. Produces beam of electron peam is deflected on its esponse. Amzental mode Screen electron beam of electron beam of electr		

Glass envelope It is conscal highly evaluated glass housing which contains Vacuum instite and support Various electrodes. the inner walls of CRT between neck and screen are coated with conducting material Electron gun assembly -The arrangement of electrodes which produce focussed beam of electrons is called electron gun. It essentially consists of an indirectly heated Cathode, control grid, focussing anode and an accelerating anode ii The cathode consists of nickel cylinder Coated with Oxide Coating and provide plenty of electrons. in Deflection plate assembly-The deflection of the electron beam is achieved by two sets of deflecting plates placed within the tube beyond the accelerating anode One set is vertical deflection plate and other is Horizontal deflection plates. iv. Screen - The screen is the inside face of the tube and is coated with flypnescent material Such as zinc Oxide, zinc Onthosilicate, when high velocity electron beam strikes the screen

8. Working OF CRT Working OF CRT when Cathode is heated, it emits plenty of electrons, these electrons pass through Control grid on their journey. The control grid has negative potential. IF negative potential on Control grid is high, Rew electrons will pass through it and the electron beam Strikes On the screen will produce a dim Spot of light. IF negative potential on control grid is reduced. the sport of light will be bright वकानद क्रि 1964 Itonomo

- शिक्षणमहर्षी डॉ. बापूजी साखुंखे 34063 Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)					
SUPPLIMENT	Signature of Supervisor				
Suppliment No. :	Subject: Sound and Acoustic				
Roll No. : 7575	Test / Tutorial No. :				
Class : B.Sc - II	Div. :				
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which contains vacuum various electrodes. The neck and screen a material, called cigud connected to the acee which accidently ship the smode. This p	the evaluated glass housing inside and support the einner walls of CRT between the coated with a conclucting lag. This coating is electrically elevating anode so that electrically elevating anode so that electric ke the walls ar returned to revents the walls of the tube high negative potential.				
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ii) Electron gun assembly. The arrangment a focused beam of ele aun It escentially con	of electrodes which produce octrons is called the electron nsist of an indirectly heated d, a focusing anode and an the control grid is helds could be JUNE				

anodes are maintained at high positive potential w.r. t. cathode iii) Deflection plate assembly :is achieved The deflection of the electron heam within the by two sets of deflecting plates placed the tube beyound accelerating and One is other vertical deflection plates the vertical the horizontal deflection plates The in the tube borizontally deflection plates are mounted plates are mounted The porisontal deflection the vertical plane iii) screen ! inside face of the tube the The screen ia such as sinc fluorescent material is coated with oxide, zing orthosiliate etc. when high velocity electron is produced beam strikes the screen, a spot of light at the point of impact. The colour of the material of fluorescent depends upon the nature FOY deflection plate Accelerating Focus anode Screet Gro Elect Cathode (vertical Electron gun deflection, ESTD Aguada olates JUNE 1964 9utonomous

working !when the cathode is heated, it emits plenty of electrons. These electrons pass through control grid on their journey. The control grid has a negative potential. If negative potential on the control grid is high , few electrons pass through it and the electron beam striking on will produce a dim spot of light. If the potential on the control and is reduced of light will be bright. Thus, intensity The. spot on the screen can changed changing the negative potential on After lenving the control grid, the comes under the influence focusing control and electron accelerations anodes. These two anodes are main they produce high positive potential electrostat field which as andit ic lens convergs the electron beam at a point on Screen. G2 Lissajous figures may be used measurement freq. In this e frequency is to the Y-plates and Whose is applied to is applied to the x-plates freq. signal the CR.O Unknown freq is calculated by the = <u>Mumber of loops cut by morizontal line</u> xbg number of loops cut by vertical line

i) The energy associated with an electromagnetic spectrum is given by $E = \dots$ A) $h\gamma$ B) $h\lambda$ C) $h^2\gamma$ D) $h^2\gamma^2$ ii) Wein's displacement law is given by $\lambda_m T = \dots$ A) constant B) zero C) infinite D) 100 iii) Ptolemy's theory is known as theory. A) Geocentric B) Heliocentric C) Newton's D) Einstein iv) One Lunar cycle consists days	Seat No. Viv	vekanand Coll	ege , Kolhapui	r (Autonomou	s).
Title of the Paper – Fundamentals of Astrophysics Subject Code: DSC-1511C1 (Internal Examination)Day and Date:Total Marks: 20Time:Instructions: 1) All questions are compulsory. 2) Figures to the right indicate full marks. 3) Figures to the right indicate full marks. 4) Use of Scientific calculator or Log table is allowed.Q.1. Select most correct alternativei) The energy associated with an electromagnetic spectrum is given by $E = \dots$ a) h γ B) h λ C) h $^2\gamma$ b) h γ B) h λ C) h $^2\gamma^2$ ii) Wein's displacement law is given by $\lambda_m T = \dots$ A) constantb) zeroC) infiniteD) 100iii) Ptolemy's theory is known as	B. Sc. F	art-II (Semest	er- III) Exami	nation Oct/No	ov.2019
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i) What is Doppler shift? State its applications.ii) Illustrate Copernicus theory.	O.2. Attempt any	one			(10)
			lications.		
Q.3. Attempt any one. (5)	ii) Illustrate Coper	micus theory.			
Vio. Attempt any one.	03 Attempt on	/ one			(5)
i) How moon can be used as a calendar.	Contraction of the second s		r.		V-1
i) Write a note on sun as a calendar.	· · · · · · · · · · · · · · · · · · ·	eyor method used fo	or determination of te	errestrial distances.	

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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.II (Astrophysics) Sem III

Date:- 25/09/2019

Attendance Sheet

Roll No.	Name Of The Student	Signature
7550	Bachche Aomkar Prakash	E .
7551	Banasavade Omkar Devadas	Embrace
7552	Bhatale Sachin Sakharam	-Shatle
7553	Gole Gaurav Rajaram	- young-
7554	Gurav Rutuja Ravindra	Guar
7556	Khandekar Pooja Sanjay	Parspa
7557	Khatangale Shubhangi Prakash	Finatarial
7558	Khatkale Prashant Prakash	(FP)
7559	Kudalkar Prajakta Shivaji	Quathar
7560	Mali Rohit Maruti	Maw
7561	More Shubham Laxman	Same.
7562	Padaval Vaibhav Sadashiv	Yadaval
7563	Parab Vinayak Sumant	Sjarab
7564	Patil Aakansha Bhimarao	Rate
7565	Patil Akshay Dhanaji	Akshay
7566	Patil Aniket Ananda	tabul
7567	Patil Anuja Dattajirao	Apatil
7568	Patil Prajkta Krushnat	Hatil
7569	Patil Shivani Vishnu	Statil
7570	Pawar Aakash Anandrao	Akart
7571	Pirai Omkar Baban	Timbi
7572	Rane Rohit Ramdas	Bane
7573	Salokhe Atish Pundlik	B.
7574	Satbige Shivanand Sanjeev	Latting
7575	Sayyad Alsaba Javed	Alsoba
7576	Shelar Avinash Sanjay	Indar
7852	Bedagkar Gauri Rahul	Gruei
7853	Chavan Ramchandra Ashok	Davar
7854	Dayama Abhishek Ashok	Apayona
7855	Hiremath Seema Sharanayya	# le amath
7856	Jadhav Nikhil Sandeep	Sjadhav



7857	Kalgutkar Aakash Rajendra	1 De
7858	Kore Jyoti Vinayak	Fore.
7859	Mane Malhar Uday	MU.M.
7860	Patil Omkar Dhanaji	Call
7861	Patil Omkar Janaba	Cau
7862	Sarnaik Kunal Ketan	Ser.
7863	Shaikh Soufeen Shahmahmad	Basnait
7864	Shetke Pushkraj Umesh	-fus-
7865	Shinde Siddhesh Shivaji	Bainde.
7866	Waghmode Kiran Bhimrao	Stor.
7867	Yadav Durga Vaijanath	Fiday
7868	Gharale Karan Manohar	(Sthavale
7555	Kanade Priyanka Swatantryakumar	Bancide
7870	Kalugade Sourabh Ravindra	
7871	Sawant Arati Ashok	Arourna
7872	Shetke Atharav Sanjay	Atrike
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7874	Kharase Rushikesh Dayanand	ER

Internal Examinar Dr. Frupti U. Vrunkar

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" ज्ञान, विज्ञान आणि सुसंस्कार बांसाठी शिक्षण प्रसार " - शिक्षणमहर्षी डॉ. बागूजी साबुंखे Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)				
-	SUPPLIMENT	Signature of Supervisor		
Roll No	1361	Subject : Astrophysics Test/Tutorial No.: Internal Exam		
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2.23	ARE NOT A STATE OF A
	Copernican Heliocentric model.
124	Copernicus a polish astronomer and mathematician proposed his heliocenteic model in 1542 AD. This
	that copernicus waited until the year of his death to
	publish his work titled The Revolutions of the Heavenly Spheres.
1	that the sun was the centre,
/	i. Though the ptolemic model was good at predicting the predictions of the planets, it was not precise.
	and over the centuries its predictions got worse and worse.
	2. The retrograde motions of the planets could be explained by assuming that the Earth also moves
	around the Sun.
10	as seen from the Earth occur naturally as a found
-	result of the Earth's motion combined with the motions of the planets Accordingly, the Sun is at
-	the centre and all planets and distant objects Stars revolve in circular orbit as shown. In fig.
	below.
	The invention of the telescope by Galileo in 1609 and observations on orbiting mouns as planet
	like the Farth's moon supported the heliocentric.
	System.
1.11	ESTD OF
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Saturn Jupiter Farth Q.37 1) Moon as a Calender -> The moon revolve around the earth. from the earth moon phases are observed. These moon phases were used as a calender. Phases from full macon to no moon and again to full moon is called as lunar cycle or lunar month. The One lunar month consist of 29.5 solar days. when 12 lunar months are completed from the start of spring is called the lunar year. The lunar year consist of lax 29.5 = 354 days But the Solar year consist of 365.25 days & hence the spring of next year will start after 11.25 days. This error may create a Serious problem for farmers on the Hence a correction should be applied for -this error. The civilizations introduced an extra month after 3 years in order to match lunar calender equile it seasons.

Sun as a Calender > The observations of sun from sunrise to noon to sunset from day to day provide more reliable. colender then the observations of moon cycles. The observations of moon cycles. The observations of sup can be made with the help of shadow of a long stick or stone held vertical on a plane earth Surface. The length of shadow of suprise & supret is maximum while it is minimum at the north when the sun is exactly over head or at its highest position from the horizon The time bet two succesive noons is called as a solar day one Solar day consists of 24 hours

" ज्ञान, विज्ञान आणि सुसंस्क	ार यांसाठी शिक्षण प्रसार '' -शिक्षणमहर्षी डॉ. बापूजी सार्ळुखे			
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Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)				
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Q.2 2) copernicus Helioceptric model mathematician copernicus a polish astronomer proposed his heliocentric model heliocentric (sun-centered) cocept Was 30 that copernicus waited until the year of his dea to publish his work titled. The Revolutions of the Heavenly spheres assuming that the sun was the centre. Though the ptolemic model was good at predicting the predictions of the planets, it was not precise and over the centuries its predictions got worse and worse. 2. The retrograde motions of the planets could be explained by assuming that the Earth also moves around the sun. Thus the sun retrograde loops of the planets from the earth occur naturally as seen the Earth's motion combin found result of with the motions of the planets the sun is at the centre dl and distant objects stars revolve orbits as shown in fig. below. The invention of the telescope by Galileo in 160g and observations moons as planet Jupiter as well Observe phases of planet just like the Earth's mean supported the heliocentric system.

'' ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार '' -शिक्षणमहर्षी डॉ. बापूजी साळुंखे Shri Swami Vivekanand Shikshan Sanstha Kolhapur's VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)			
SUPPLIMENT	Signature of Supervisor Subject : Astrophysics Test / Tutorial No. : Internal Exam		
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035 2) Sup as a calender -> The observations of sun from sunrise to nam to Sunset from day to day provide more reliable calender then the observations of moon cycles. The observations of sun can be made with the help of shadow of a long stick or stone held vertical on a plane earth surface. The length of shadow at sunrise and sunset is maximum while it is minimum at the noon, when the sun is exactly over head or at its highest position from the horizon. The time between two successive hoons is called as Solar day. One solar day consist of 24 hours, The minimum length of shadow at noon depends upon the particular region on the earth and season of the year. For eq. the shadow length at noon is longest at the begining of winter. 1) Moon as a calender -> The moon revolves around the earth from the earth, moon phases are observed. These moon phases were used as a calender called as lupar calender. Phases from ful moon to no moon and again to full moon is called as lunar cycle. or lunar month One lunar month consist of 29.5 days when 12 lunar months are completed from the start of spring it is called the tunar year. The lunar year consist of 12x29.5 = 354 days. But, the solar year so consist of 365.25 solar days. and hence the spring of next year will start after 11:25 days. This error may create a serious problem for farmers on the earth. Hence a correction should be applied for this error.