

B.L.D.E Association's
S. B. Arts and K. C. P. Science College,
Vijayapur



Department of PG Studies in Physics

BRIDGE COURSE

For

First Semester PG Students OF PHYSICS
(For the Academic Year 2020-21)

REPORT

2020-21



B.L.D.E.ASSOCIATION'S
S. B. ARTS AND K. C. P. SCIENCE COLLEGE,
SHRI B. M. PATIL ROAD (Solapur Road), VIJAYAPUR
ACCREDITED at 'A' Grade in 3rd Cycle by NAAC
Phone: (08352) – 261766, (08352) 262770 Extn. 2223, 2224
Fax: 08352 – 261766 E-mail: bldeasbkcp@gmail.com Web: www.bldeasbkcp.org



REF.: _____

Date: 18-Dec-2020

Department of PG Studies in Physics

Bridge Course 2020-2021

NOTICE

Notice to inform about conducting Bridge course for Academic year 2020-2021 for M. Sc I semester Physics students. Classes for Bridge course will commence from 21st of December 2020 to 28th of December 2020. All the M. Sc Ist sem students have to attend the classes without fail.

Blpije

Coordinator
Co-ordinator

Department of PG Studies in Physics
S.B. Arts and KCP Science College
VIJAYAPUR

[Signature]

IQAC Coordinator

IQAC, Co-ordinator
S.B.Arts & K.C.P.Science College,
Vijayapur.

[Signature]

Principal
Principal,

S.B. Arts and KCP Science College
VIJAYAPUR

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S. B Arts and K. C. P Science College, Vijayapur
Department of PG Studies in PHYSICS
Bridge Course 2020-2021

TIME-TABLE 2020- 2021

Time	21/12/2020	22/12/2020	23/12/2020	24/12/2020	26/12/2020	28/12/2020
9.00 to 11.00	GMN	SVP	SPS	GMN	SVP	SPS
3.00 to 4.00				BAP		
4.00 to 5.00						BAP

Staff Members:

Dr. Girija M. Nimbale (GMN)

Prof. Soumya Sajjan (SPS)

Prof. Swati Palbhavi (SVP)

Prof. Basavajyoti Patil (BAP)


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9.00 to 11.00	GMN	SVP	SPS	GMN	SVP	SPS
3.00 to 4.00				BAP		
4.00 to 5.00						BAP

Staff Members:

Dr.Girija M.Nimbal (GMN)

Prof. Soumya Sajjan (SPS)

Prof. Swati Palbhavi(SVP)

Prof. Basavajyoti Patil(BAP)


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SYLLABUS

No. of teaching hours: 02 hours for each module

Module 1: Classical Mechanics: Centre of Mass, Motion of Centre of mass, Pure Translational and Rotational motion, Torque and angular momentum, Principle of moments (Moment of Inertia), Radius of Gyration, Generalized Motion, and Kinematics of rotational motion about a fixed axis.

Module 2: Mechanical Properties of Solids and Fluids: Elastic behaviours of solids, Hooke's Law, Young's Modulus, Shear Modulus, Bulk Modulus, Applications of Elastic behaviours of materials, Compressibility, Viscosity, Relative density, Pascal's Law, Streamline Flow, Bernoulli's Principle, Surface Tension, Drops and Bubbles

Module 3: Waves and Oscillations: Rectilinear motion, Oscillations or Vibrations, Simple Harmonic Motion, Damped Harmonic motion: Real oscillatory system, Forced or Driven oscillation, TYPES OF WAVES, Superposition of Waves, Reflection and Refraction, Standing Waves and Normal Modes, Beats, Resonance, Doppler's Effect

Module 4: Electricity and Magnetism: Physical concepts of gradient, divergence, and curl; Laplacian operator, Concept of electricity and magnetism, Coulomb's law, Electrostatics, Magnetostatics, the Lorentz force, Maxwell's equations

Module 5: Electromagnetic Signal: Introduction to Maxwell's equations, The dynamical magnetic field, The dynamical electric field, Electromagnetic Waves

Module 6: Semiconductor Electronics: Classification of metals, conductors and semiconductors, Fermi Level, Intrinsic Semiconductor, Extrinsic Semiconductor, p-n junction, Semiconductor Diode, Half-Wave Rectifier, Full-Wave Rectifier, Zener diode, Photodiode, Light emitting diode, Junction Transistor

Module 7: Atomic and Nuclear Physics: Matters, Atoms, Atomic Theory: Atomic Theory by John Dalton, Atomic Theory by J. J Thompson, Atomic Theory by Ernest Rutherford, Atomic Theory by James Chadwick, Discovery of the Neutron, Bohr's Postulates, Proton, Neutron, Electron, Limitations of Bohr's Theory



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Bridge Course 2020-2021

STUDENTS LIST

Sl. No	Student Name	Roll. No
1	Pooja Nashi	1
2	Vikram Manur	2
3	Sohail Ahmad Khatib	3
4	Sameer Walikar	4
5	Sadeeq Walikar	5
6	Ayesha Makandar	6
7	Shveta	7
8	Shubhangi Deshpande	8
9	Malashree Jatagi	9
10	Nikita Surpur	10
11	Kavya Andewadi	11
12	Ranjani Kapaleshwar	12
13	Megha Managooli	13
14	Laxmi Biradar	14
15	Soumya Biradar	15
16	Sonali Mathapati	16
17	Pooja Kamatagi	17
18	Shameer Jatagar	18
19	Ashwini Muktedar	19
20	Md. Afrid Nabiwale	20
21	Jyoti Arakeri	21


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Bridge Course 2020-2021

Attendance list of M. Sc I semester students

Staff: Dr.Girija M.Nimbal Topic: Semiconductor Electronics, Atomic and Nuclear Physics

Roll No.	Signature of Students		Roll No.	Signature of Students	
	Date: 21/12/2021	Date: 24/12/2021		Date: 21/12/2021	Date: 24/12/2021
1	P.V. Nushi	P.V. Nushi	11	Kanva	Kanva
2	R	R	12	Ranab	Ranab
3	S	S	13	Megha	Megha
4	S.B. Bwalika	S.B. Bwalika	14	LMB	LMB
5	S.B. Bwalika	S.B. Bwalika	15	S.S. Biradai	S.S. Biradai
6	Anatandasi	Anatandasi	16	2	2
7	S.M. Masarahal	S.M. Masarahal	17	Rui	Rui
8	S	S	18	Sej	Sej
9	MBS	MBS	19	Sam	Sam
10	A	A	20	Amshwal	Amshwal
			21	J.N. Arakeri	J.N. Arakeri

Staff: Prof. Soumya Sajjan Topic: Classical Mechanics and Mechanical Properties of Solids and Fluids

Roll No.	Signature of Students		Roll No.	Signature of Students	
	Date: 23/12/2021	Date: 28/12/2021		Date: 23/12/2021	Date: 28/12/2021
1	P.V. Nushi	P.V. Nushi	11	Kanva	Kanva
2	R	R	12	Ranab	Ranab
3	S	S	13	Megha	Megha
4	S.B. Bwalika	S.B. Bwalika	14	LMB	LMB
5	S.B. Bwalika	S.B. Bwalika	15	S.S. Biradai	S.S. Biradai
6	Anatandasi	Anatandasi	16	2	2
7	S.M. Masarahal	S.M. Masarahal	17	Rui	Rui
8	S	S	18	Sej	Sej
9	MBS	MBS	19	Sam	Sam
10	A	A	20	Amshwal	Amshwal
			21	J.N. Arakeri	J.N. Arakeri

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Attendance list of M. Sc I semester students

Staff: Prof.S.V.Palbhavi

Topic: Electricity and Magnetism, Electromagnetic Signal

Roll No.	Signature of Students		Roll No.	Signature of Students	
	Date: 22/12/2021	Date: 26/12/2021		Date: 22/12/2021	Date: 26/12/2021
1	P.V.Nashu	P.V.Nashu	11	Kauro	Kauro
2			12	Randu	Randu
3	S.K.	S.K.	13	Megha	Megha
4	S.B. Waliker	S.B. Waliker	14	KAB	KAB
5	S.B. Waliker	S.B. Waliker	15	S.S. Biradar	S.S. Biradar
6	Anatandall	Anatandall	16	2	2
7	S.M. Masurud	S.M. Masurud	17	Rui	Rui
8	B	B	18	sej	sej
9	MBS	MBS	19	dam	dam
10	AF	AF	20	Anantkale	Anantkale
			21	J.N. Arakeri	J.N. Arakeri

Staff: Prof. B. A. Patil

Topic: Waves and Oscillations

Roll No.	Signature of Students		Roll No.	Signature of Students	
	Date: 24/12/2021	Date: 28/12/2021		Date: 24/12/2021	Date: 28/12/2021
1	P.V. Nashu	P.V. Nashu	11	Kauro	Kauro
2			12	Randu	Randu
3	S.K.	S.K.	13	Megha	Megha
4	S.B. Waliker	S.B. Waliker	14	KAB	KAB
5	S.B. Waliker	S.B. Waliker	15	S.S. Biradar	S.S. Biradar
6	Anatandall	Anatandall	16	2	2
7	S.M. Masurud	S.M. Masurud	17	Rui	Rui
8	B	B	18	sej	sej
9	MBS	MBS	19	dam	dam
10	AF	AF	20	Anantkale	Anantkale
			21	J.N. Arakeri	J.N. Arakeri



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REF.: _____

Date: 28 Dec-2020

Department of PG Studies in Physics

Bridge Course 2020-2021

NOTICE

This is to inform M. Sc I semester Physics students about conducting Bridge course test for Academic year 2020-2021. The test will be conducted on 31st of Dec 2020. All the M. Sc Ist sem students have to attend the test without fail.

Coordinator
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Question Paper

Name: _____

Roll No.: _____

All questions are compulsory. Each question carries 2 marks

25q X 2M = 50M

- 1) The center of mass of a body is located _____
a) outside the system b) Inside the system
c) Inside or Outside the system d) At the center of the system
- 2) The rate of change of angular velocity is _____.
a) Angular momentum b) Torque c) Angular acceleration d) Moment of inertia
- 3) The center of mass of a system of particles does not depend on_____
a) Masses of the particles b) Force on the particles
c) Relative distance between the particles d) Position of the particles
- 4) When external forces acting on a body are zero, then its center of mass_____
a) Remains stationary b) Moves with uniform velocity
c) Either remains stationary or moves with uniform velocity d) None of these
- 5) SI Unit of stress is _____
a) Nm^{-2} b) $\Omega^{-1}\text{m}^{-1}$ c) weber d) tesla
- 6) The ratio of change in volume (ΔV) of the body to the original volume (V) is called _____
a) Volume stress b) Tensile stress c) Compressive stress d) Volume strain
- 7) The viscosity of liquids _____with temperature
a) Decreases b) Increases c) Remains constant d) None of the above
- 8) Motion of a particle in a straight line is _____
a) Periodic motion b) Circular motion c) Rectilinear motion d) Oscillatory motion
- 9) Sinusoidal wave form is _____
a) Cosine wave b) Sine wave c) Sine and Cosine Waves d) None of the above
- 10) Simple harmonic motion is specialized form of _____ motion
a) Rotatory motion b) Circular motion C) Oscillatory motion d) Periodic motion
- 11) In SHM, for mechanical oscillation the system must possess _____
a) Inertia b) Elasticity c) Both (a) and (b) d) Neither (a) nor (b)

- 12) If the object has negligible size and the rod is massless, then the pendulum is _____
 a) Spring Pendulum b) Simple pendulum c) Compound pendulum d) Bar pendulum
- 13) Mechanical waves are called _____
 a) Elastic wave b) Transverse wave c) Longitudinal waves d) Electromagnetic waves
- 14) Which of the following waves can be transmitted through solids, liquids and gases?
 a) Transverse wave b) Mechanical wave c) Electromagnetic waves d) Longitudinal waves
- 15) What is the most fundamental property of wave
 a) Temperature b) Frequency c) Pressure d) Wavelength
- 16) In which medium sound travels faster?
 a) Liquids b) Solids c) Gas d) Water vapors
- 17) What are the charge carriers in the semiconductors?
 a) Electrons b) Holes c) Charges d) Electrons and holes
- 18) A Semiconductor is formed by _____ bonds
 a) Covalent bond b) Co-ordinate bond c) Electrovalent bond d) None of the above
- 19) The most commonly used semiconductor is _____
 a) Germanium b) Carbon c) Silicon d) Sulphur
- 20) In an intrinsic semiconductor the number free electrons _____
 a) Equals the number of holes b) Less than the number of holes
 c) Is greater than the number of holes d) None of the above
- 21) At 0 K a pure semiconductor behaves like _____
 a) Conductors b) Insulators c) Superconductors d) None of the above
- 22) The nucleus consist of _____
 a) Neutrons b) Protons c) Neutron and Proton d) Electron and neutron
- 23) Nucleus is _____
 a) Positively charged b) Negatively charged c) Neutral d) Charge keeps of an electron
- 24) Which of the following rays are emitted during radioactivity?
 a) Alpha ray b) Beta ray c) Gamma ray d) All of the above
- 25) The half-life of radioactive nuclei is _____
 a) $0.693/\lambda$ b) $0.793/\lambda$ c) 0.693λ d) 0.793λ

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BRIDGE COURSE MARKS LIST 2020-21

Class: M. Sc- I sem

Sub: Physics

Roll No	Marks	Signature
1	32	P.V. Nushi
2	32	
3	40	
4	30	S. B. Bwalikar
5	46	(S. B. Bwalikar)
6	28	(F. P. P.)
7	34	S. M. Masamud
8	20	
9	36	
10	34	
11	38	
12	22	
13	28	
14	18	
15	26	S. S. Biradar
16	20	
17	32	
18	26	
19	24	
20	38	
21	22	

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