

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 2021-22)

REPORT

2021-22



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.ac.in



REF.: _____

Date: 9-Dec-2021

Department of PG Studies in Physics

Bridge Course 2021-2022

NOTICE

Notice to inform about conducting Bridge course for Academic year 2021-2022 for M. Sci semester Physics students. Classes for Bridge course will commence from 13th of December 2021 to 18th of December 2021.

All the M. Scistsem students have to attend the classes without fail.

Coordinator

Co-ordinator

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

IQAC Coordinator

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

Principal,

S.B. Arts and KCP Science College
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S. B Arts and K. C. P Science College, Vijayapur
Department of PG Studies in PHYSICS
Bridge Course 2021-2022

TIME-TABLE 2021- 2022

Time	13/12/2021	14/12/2021	15/12/2021	16/12/2021	17/12/2021	18/12/2021
3.00 to 4.00	GMN	SPS	SPS	BAP	SVP	SVP
4.00 to 5.00				GMN		BAP

Staff Members:

Dr. Girija M. Nimbale (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: Matter, 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 2021-2022

STUDENTS LIST

Sl. No	Student Name	Roll.No
1	AtharullahBalganur	1
2	Vrunda Sanjeev Deshmukh	2
3	AbidMahebusabBagwan	3
4	ShrideviKhedagi	4
5	AishwaryaShitole	5
6	Praveen GovidandappaAdagal	6
7	KartikPattanshetti	7
8	ArunaHadimani	8
9	Sevanti S B Patil	9
10	AmbikaShende	10
11	Umarfaruk Jamadar	11
12	Mahesh Harijen	12
13	GururajMuchandi	13
14	Daneshwari D Hawaldaramath	14
15	SagarPanalakar	15
16	ShwetashreeNagaraddi	16


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Attendance list of M. Sc I semester students

Roll No.	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8
	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:
	13/12/21	14/12/21	15/12/21	16/12/21	16/12/21	17/12/21	18/12/21	18/12/21
1	ASB	ASB	ASB	ASB	ASB	ASB	ASB	ASB
2	JSR	JSR	JSR	JSR	JSR	JSR	JSR	JSR
3	JSR	JSR	JSR	JSR	JSR	JSR	JSR	JSR
4	Shrudey	Shrudey	Shrudey	Shrudey	Shrudey	Shrudey	Shrudey	Shrudey
5	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey
6						PAdey	PAdey	PAdey
7	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet	K.V. Pattanshet
8	ABH	ABH	ABH	ABH	ABH	ABH	ABH	ABH
9				AShudey	AShudey		AShudey	
10	Asshudey	Asshudey	Asshudey	Asshudey	Asshudey	Asshudey	Asshudey	Asshudey
11	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey
12	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey	Ujiradey
13	Q di	Q di	Q di	Q di	Q di	Q di	Q di	Q di
14	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey
15	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey	AShudey
16					Sueta		Sueta	


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REF.: _____

Date: 18 Dec-2021

Department of PG Studies in Physics

Bridge Course 2021-2022

NOTICE

This is to inform M. ScI semester Physics students about conducting Bridge course test for Academic year 2021-2022. The test will be conducted on 20th of Dec 2021. All the M. ScIstsem students have to attend the test without fail.


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Question Paper

Name: _____

Roll No.: _____

All questions are compulsory. Each question carries 2 marks

25q X 2M = 50M

- 1) The Viscosity of Liquid's _____ with temperature.
a) Decreases b) Increases c) Remains constant d) None of the above
- 2) Sinusoidal wave form is _____
a) Cosine wave b) Sine wave c) Sine and Cosine Waves b) None of the above
- 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 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
e)
- 8) Motion of a particle in a straight line is _____
a) Periodic motion b) Circular motion c) Rectilinear motion d) Oscillatory motion
- 9) The rate of change of angular velocity is _____
a) Angular momentum b) Torque c) Angular acceleration d) Moment of inertia
- 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) Which is the fundamental property of wave?
 a) Temperature b) Frequency c) Pressure d) Medium
- 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 Semiconductor with minimum energy gap 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) None
- 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 2021-2022

Class: M. Sc- I sem

BRIDGE COURSE MARKS LIST 2021-22


Sub: Physics

Roll No	Marks	Signature
1		
2	38	
3	30	
4	36	
5	24	
6	30	
7	30	
8	42	
9	24	
10	32	
11	32	
12	30	
13	38	
14	42	
15	34	
16	30	
	28	


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