## Modules of Classes and Examinations, 2018-19

## **B.Sc. (General) in Physics**

## **Semester-II**

Total 75 Marks

## Hiralal Bhakat Colllege, Nalhati

- **Core Course CC2B** ELECTRICITY AND MEGNATISM
- ➢ 40 Marks for Semester-end-Examination<sup>#</sup> (will be organized by University)
- > 20 Marks for practical (will be organized by College in general and Department in Particular )
- 10+5=15 Marks for Internal Assessment (will be organized by College in general and Department in Particular)
- > 10 Marks for Class Test/ Assignment/ Seminar
- ➢ 5 Marks for Attendence
  - Attendence: 50% & above but below 60% 2 Marks Attendence: 60% & above but below 75% - 3 Marks Attendence: 75% & above but below 90% - 4 Marks Attendence: 90% & Above - 5 Marks

Internal	Component 1 (C <sub>1</sub> )	Component 2 (C <sub>2</sub> )
Weightage	5 Marka	5 Marka
Number of	5 (EIVE)	
Questions	J (FIVE)	J(FIVE)
Questions	10.01.0010	07.07.0010
Date	16-04-2019	07-05-2019
Time	12:30 PM	12:30 PM
Syllabus		1.Vector Analysis:
	1.Vector Analysis:	Review of vector algebra (Scalar and Vector
	Review of vector algebra (Scalar	product), gradient, divergence, Curl and their
	and Vector product), gradient,	significance, Vector Integration, Line, surface
	divergence, Curl and their	and volume integrals of Vector fields,
	significance, Vector Integration,	Gaussdivergence theorem and Stoke's
	Line, surface and volume integrals	theorem of vectors (statement only).
	of Vector fields, Gaussdivergence	2.Electrostatics:
	theorem and Stoke's theorem of	Electrostatic Field, electric flux, Gauss's
	vectors (statement only).	theorem of electrostatics. Applications of
	2.Electrostatics:	Gauss Theorem-Electric field due to point
	Electrostatic Field, electric flux,	charge, infinite line of charge, uniformly
	Gauss's theorem of electrostatics.	charged spherical shell and solid sphere,
	Applications of Gauss Theorem-	plane charged sheet, charged conductor.
	Electric field due to point charge.	Electric potential as line integral of electric
	infinite line of charge, uniformly	field, potential due to a point charge, electric
	charged spherical shell and solid	dipole, uniformly charged spherical shell and
	sphere, plane charged sheet,	solid sphere. Calculation of electric field from
	charged conductor. Electric	potential. Capacitance of an isolated spherical
	potential as line integral of electric	conductor. Parallel plate, spherical and
	field, potential due to a point	cylindrical condenser. Energy per unit volume
	charge, electric dipole, uniformly	in electrostatic field. Dielectric medium,
	charged spherical shell and solid	Polarisation, Displacement vector. Gauss's

sphere Calculation of electric field	theorem in dielectrics. Parallel plate capacitor
from not ontial. Canacitance of an	completely filled with dialoctric
isolated spherical conductor	completely filled with dielectric.
Solated spherical conductor.	
Parallel plate, spherical and	3.Magnetism:
cylindrical condenser. Energy per	Magnetostatics: Biot-Savart's law & its
unit volume in electrostatic field.	applications- straight conductor, circular coil,
Dielectric medium, Polarisation,	solenoid carrying current. Divergence and curl
Displacement vector. Gauss's	of magnetic field.Magnetic vector
theorem in dielectrics. Parallel	potential.Ampere's circuital law. Magnetic
plate capacitor completely filled	properties of materials: Magnetic intensity,
with dielectric.	magnetic induction, permeability, magnetic
	susceptibility. Brief introduction of dia-, para-
	and ferro-magnetic materials.
	4. Electromagnetic Induction:
	Faraday's laws of electromagnetic induction.
	Lenz's law self and mutual inductance 1 of
	single coil M of two coils Energy stored in
	magnetic field (6 Lectures) Maxwell's
	aquations and Electromagnetic wave
	equations and Electromagnetic wave
	propagation: Equation of continuity of
	current, Displacement current, Maxwell's
	equations, Poynting vector, energy density in
	electromagnetic field, electromagnetic wave
	propagation through vacuum and isotropic
	dielectricmedium, transverse nature of EM
	waves, polarization.

Name of	Md Ashik	Md Ashik
Teacher(s)		
Number of	30 (Tentative)	30(Tentative)
Classes		
	·	
<sup>#</sup> Component	$3(\mathbf{C}_{\mathbf{r}})$	
component	3 (C3)	
<b>N</b> 4014		
> 40M	arks for Semester-end-Exa	mination (will be organized by University)
Ansy	wer 5 questions out of 8 car	rying 02 marks each = $5 \times 02 = 10$ marks
Ansy	wer 5 questions out of 7 car	rving 03 marks each = $5 \times 03 = 15$ marks
	1	
Ansy	wer 03 questions out of 05 of	carrying 5 marks each = $03x 5 = 15$ marks
Ansy	wer 03 questions out of 05 o	carrying 5 marks each = $03x 5 = 15$ marks
> Answ	wer 03 questions out of 05 o	carrying 5 marks each = $03x 5 = 15$ marks
<ul><li>Answ</li><li>Who</li></ul>	wer 03 questions out of 05 o ole Syllabus of CC 2B	carrying 5 marks each = $03x 5 = 15$ marks
<ul><li>Answ</li><li>Who</li></ul>	wer 03 questions out of 05 o ole Syllabus of CC 2B	carrying 5 marks each = $03x 5 = 15$ marks
<ul><li>Ansy</li><li>Who</li></ul>	wer 03 questions out of 05 of the out of 05 of the out of 05 of CC 2B	carrying 5 marks each = $03x 5 = 15$ marks
<ul><li>Ansv</li><li>Who</li><li>Practi</li></ul>	wer 03 questions out of 05 o ole Syllabus of CC 2B cal (Mechanics) = 20 Mark	carrying 5 marks each = $03x 5 = 15$ marks
<ul> <li>Ansv</li> <li>Who</li> <li>Practi</li> <li>Labora</li> </ul>	wer 03 questions out of 05 o ole Syllabus of CC 2B cal (Mechanics) = 20 Mark atory Note Book: 05 Marks	carrying 5 marks each = $03x 5 = 15$ marks
<ul> <li>Ansv</li> <li>Who</li> <li>Practi</li> <li>Labora</li> <li>Viva-</li> </ul>	wer 03 questions out of 05 o ole Syllabus of CC 2B cal (Mechanics) = 20 Mark atory Note Book: 05 Marks voce: 05 Marks	carrying 5 marks each = 03x 5 = 15 marks

> A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

B

Coordinator Science Wing Hiralal Bhakat College Mat Achilo

Head Department of Physics Hiralal Bhakat College Nalhati,Birbhum

Bha.

Teacher- in- Charge Hiralal Bhakat College Nalhati, Birbhum

