



Rayat Shikshan Sanstha's

Abasaheb Marathe Arts and New Commerce, Science College, Rajapur,

Dist-Ratnagiri, 416 702 (MH)

Affiliated to University of Mumbai, Mumbai

Reaccredited with B⁺ grade by NAAC/ Best College Award by University of Mumbai, Mumbai

OPEN BOOK TEST

Mark Sheet


Class: T.Y.B.Sc

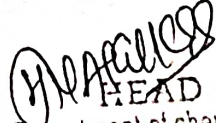
Date: 06/09/2023

Time: 11.00 am to 12.00 pm

Marks: 15

Sr. No	Roll No.	Name of the Student	Marks (Out of 15)
1		Afifa Siraj Naik	14
2		Safa Sameer Naik	13
3		Sail Sandip Kambli	12
4		Sanket Shantaram Masurkar	10
5		Kiran Sunil Kajave	10
6		Yatnik Vishal Bankar	12
7		Darshana Avinash Shivalkar	14


Subject Teacher


HEAD
Department of chemistry
A.M.A. & N.C.S.College,Rajapur



Rayat Shikshan Sanstha's

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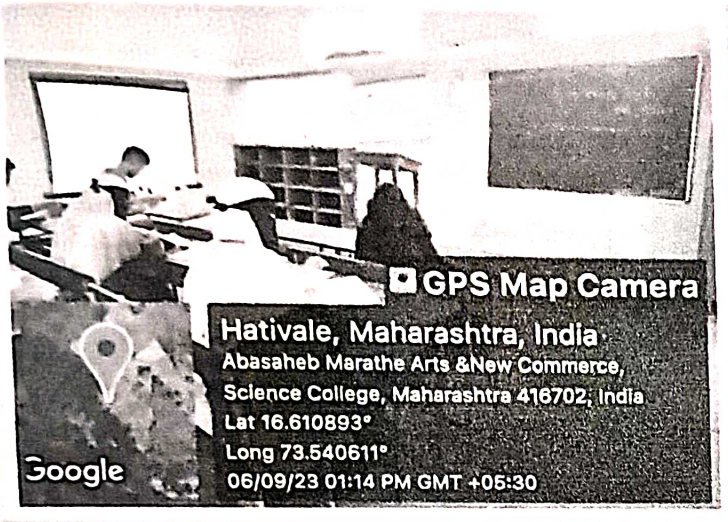
**OPEN BOOK TEST
PHOTOGRAPHS**

Class: T.Y.B.Sc

Time: 11.00 am to 12.00 pm

Date: 06/09/2023

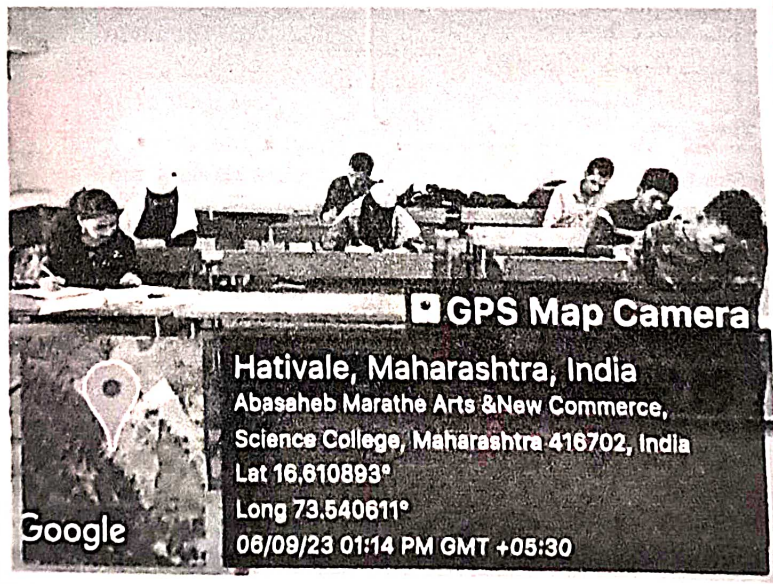
Marks: 15



Student during open book test



Notice



(Signature)
Department of chemistry
A.M.A. & N.C.S. College, Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur,
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DEPARTMENT OF CHEMISTRY

Students Assignments

Class: T.Y.B.Sc.

Subject: Organic chemistry

Sr.No.	Roll number	Name of Student	Ass 1	Ass 2	Ass 3	Ass 4
1	2023951	Yatnik Vishal Benkar	Y.V.Benkar	Y.V.Benkar	Y.V.Benkar	Y.V.Benkar
2	2023952	Asmita Shankar Hiremath	Ahiremath	Ahiremath	Ahiremath	Ahiremath
3	2023953	Kiran Sunil kajave	Kiranj	Kiranj	Kiranj	Kiranj
4	2023954	Sail Sandip Kambli	S.Kambli	S.Kambli	S.Kambli	S.Kambli
5	2023955	Paresh Prakash Karambelkar	P.Karambelkar	P.Karambelkar	P.Karambelkar	P.Karambelkar
6	2023956	Sanket Shantaram Masurkar	S.Masurkar	S.Masurkar	S.Masurkar	S.Masurkar
7	2023957	Afifa Siraj Naik	A.Naik	A.Naik	A.Naik	A.Naik
8	2023958	Safa Sameer Naik	S.Naik	S.Naik	S.Naik	S.Naik
9	2023959	Darshana Avinash Shivalkar	D.A.Shivalkar	D.A.Shivalkar	D.A.Shivalkar	D.A.Shivalkar
10	2023960	Lahu Balu Yedage	L.Yedage	L.Yedage	L.Yedage	L.Yedage

Name & Sign of Subject teacher

Department of chemistry
A.M.A. & N.C.S.College,Rajapur



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DEPARTMENT OF CHEMISTRY
Students Assignments

Class: T.Y.B.Sc.

Subject: Inorganic Chemistry

Sr.No.	Roll number	Name of Student	Ass 1	Ass 2	Ass 3	Ass 4
1	2023951	Yatnik Vishal Benkar	Y.V. Benkar	Y.V. Benkar	Y.V. Benkar	Y.V. Benkar
2	2023952	Asmita Shankar Hiremath	Aliremath	Aliremath	Aliremath	Aliremath
3	2023953	Kiran Sunil kajave	K.S. Kajave	K.S. Kajave	K.S. Kajave	K.S. Kajave
4	2023954	Sail Sandip Kambli	S.K. Kambli	S.K. Kambli	S.K. Kambli	S.K. Kambli
5	2023955	Paresh Prakash Karambelkar	P.P. Karambelkar	P.P. Karambelkar	P.P. Karambelkar	P.P. Karambelkar
6	2023956	Sanket Shantaram Masurkar	S.S. Masurkar	S.S. Masurkar	S.S. Masurkar	S.S. Masurkar
7	2023957	Afifa Siraj Naik	A.S. Naik	A.S. Naik	A.S. Naik	A.S. Naik
8	2023958	Safa Sameer Naik	S.S. Naik	S.S. Naik	S.S. Naik	S.S. Naik
9	2023959	Darshana Avinash Shivalkar	D.A. Shivalkar	D.A. Shivalkar	D.A. Shivalkar	D.A. Shivalkar
10	2023960	Lahu Balu Yedage	L.B. Yedage	L.B. Yedage	L.B. Yedage	L.B. Yedage

K.R.

(Dr. K.R. Mahanwar)

Name & Sign of Subject teacher

HEAD

Department of chemistry
A.M.A & N.C.S. College, Rajapur



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DEPARTMENT OF CHEMISTRY
Students Assignments

Class: T.Y.B.Sc.

Subject: Physical chemistry

Sr.No.	Roll number	Name of Student	Ass 1	Ass 2	Ass 3	Ass 4
1	2023951	Yatnik Vishal Benkar	Y.V.Benkar	Y.V.Benkar	Y.V.Benkar	Y.V.Benkar
2	2023952	Asmita Shankar Hiremath	Aliremath	Aliremath	Aliremath	Aliremath
3	2023953	Kiran Sunil kajave	K.S.Kajave	K.S.Kajave	K.S.Kajave	K.S.Kajave
4	2023954	Sail Sandip Kambli	S.S.Kambli	S.S.Kambli	S.S.Kambli	S.S.Kambli
5	2023955	Pareesh Prakash Karambelkar.	P.P.Karambelkar	P.P.Karambelkar	P.P.Karambelkar	P.P.Karambelkar
6	2023956	Sanket Shantaram Masurkar	S.S.Masurkar	S.S.Masurkar	S.S.Masurkar	S.S.Masurkar
7	2023957	Afifa Siraj Naik	A.S.Naik	A.S.Naik	A.S.Naik	A.S.Naik
8	2023958	Safa Sameer Naik.	S.S.Naik	S.S.Naik	S.S.Naik	S.S.Naik
9	2023959	Darshana Avinash Shivalkar.	D.A.Shivalkar	D.A.Shivalkar	D.A.Shivalkar	D.A.Shivalkar
10	2023960	Lahu Balu Yedage.	L.B.Yedage	L.B.Yedage	L.B.Yedage	L.B.Yedage


Mr. Kamble S.G.
Name & Sign of Subject teacher


HEAD
Department of chemistry
A.M.A & N.C.S.College,Rajapur



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DEPARTMENT OF CHEMISTRY

B.Sc. - II
Sem. V

Assignment (2023-24)

analytical chem

Sr.No	Exam Seat No.	Name of the student	Signature
1.	1013994	Yatnik Vishal Benkar.	
2.	1013895	Asmita Shankar Hiremath.	<u>A Hiremath</u>
3.	1013896	Kiran Sunil kajave.	KS
4.	1013897	Sail Sandip Kambli.	<u>S Kambli</u>
5.	1013898	Paresh Prakash Karambelkar.	<u>Paresh K</u>
6.	1013899	Sanket Shantaram Masurkar.	<u>Sanket</u>
7.	1013900	Afifa Siraj Naik	<u>Afifa</u>
8.	1013901	Safa Sameer Naik.	<u>Safa</u>
9.	1013902	Darshana Avinash Shivalkar.	<u>D.A Shivalkar</u>
10.	1013903	Lahu Balu Yedage.	<u>Lahu Yedage</u>

[Signature]

DB-Sasank ICR

[Signature]
HEAD

Department of chemistry
A.M.H. & N.C.S. College, Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts & New Commerce
Science College, Rajapur

12 Pages



Examination 20 - 20

Subject - Physical Chem Class - T.Y. Bsc Exam. No. _____

Paper - Test No - 3 Section - _____ Date 01/03/23

No. of Suppliments - 1 + = Jr. Supervisor's }
Signature

Q. No.	1	2	3	4	5	6	7	8	9	10	11	12	Total
Marks													

Signature of Examiner
17/20

Start Writing From Here

1) a) What is photovoltaic effect - (3M)
b) Explain the use of solar energy - (2M)

2) What is solar cell? Describe silicon solar cell? (5M)

3) How can be ^{H₂O₂} produced from water - (5M)

4) Describe the principle of working of H₂O₂ fuel cell - (5M)

5) Why is that Hydrogen is called a fuel for the future - (5M)

6) What are advantage & disadvantage of hydrogen fuel - (5M).

Name = 'Dorshana Avinash Shivakar

class = TY BSC

sub = Physical Chemistry

14 08 2023
DD MM YYYY

12/30

i) Dipole moment =

"Dipole moment is defined as the product of magnitude charge positive charge, and negative charge and the distance between the centre, this is called as Dipole moment.

$$p = q \times r$$

ii) Bond moment =

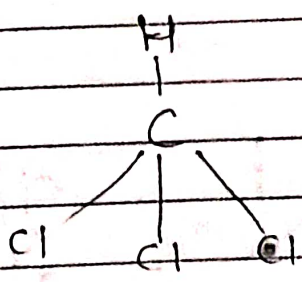
If any bond has a degree of polarity then it is called as a Bond moment.

$$u = \sqrt{u_1^2 + u_2^2 + 2u_1u_2 \cos \theta}$$

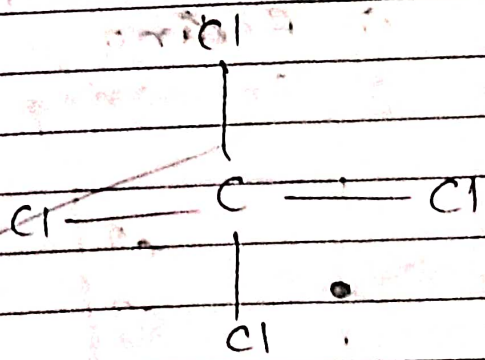
iii) Polar and non-polar molecules =

The dipole moment has the H-H bond is zero, because it is non-polar.

The dipole moment has the H-Cl bond is 1.08D, because it is polar.



polar



Non-polar

Paper - I

Topic :- Concepts of Qualitative Analysis

Fill in the blanks

1. Identification and finding out the constituents of a substance is called qualitative analysis.
2. Ions with negative charges are called Anions.
3. Ions with positive charges are called cations.
4. Gases like oxygen, hydrogen and water vapour are termed as Natural gases.
5. Carbon dioxide, sulphur oxides, Nitric Acid, Hydrogen chloride are Acidic gases.
6. If a glowing splinter relights again, then the gas is O₂.
7. If the evolving gas extinguishes a splinter and the gas burns with a pop sound then it is hydrogen gas.
8. The confirmatory test for chlorine is chromyl chloride test.
9. The colour of bromine gas is reddish brown.
10. The colour of iodine gas is violet.
11. The formula for potassium dichromate is



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Department of Physics

Academic Year 2023-24

CONTINUOUS INTERNAL EVALUATION

(Activity- Home Assignment Submission)

Contents-

- ✓ Notices for students
- ✓ Time Table / Schedule
- ✓ Question Paper
- ✓ Presenty/ Submission Record
- ✓ Evaluation Record/ Marks Sheet
- 1st three rankers



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

AY 2023-24 (Term Second)

CONTINUOUS INTERNAL EVALUATION
(Home Assignment & the Submission)

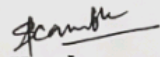
NOTICE

Class: F.Y. B.Sc. PHYSICS Semester- II

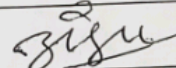

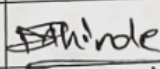
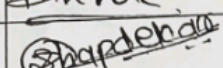
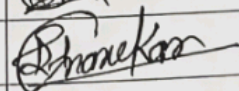
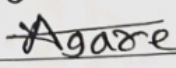
Date:-10/02/2024

All the F.Y. B.Sc. (Sem-II) Physics students are hereby informed that, they have to write and submit their "Home Assignment" within the prescribed scheduled time. In order to write your Home Assignments, you have to choose any one topic/ short note from the syllabus of Physics **Paper I or Paper II** or any two questions from the set of question paper provided herewith. You have to submit the same in time. The maximum marks allotted for this Home Assignment is 20.

It is mandatory for each student to participate in this Continuous Internal Evaluation Process.


Head,
Department of Physics
A.M.A. & N.C.S.College, Rajapur

NOTICE TO....

Sr. No.	Roll No.	Name of Candidate	Sign
1	2023271	Gundy Ansh Rajan	
2	2023272	Gurav Sanvi Sanjay	
3	2023273	Lanjekar Yash Naresh	Y.N.LANJEKAR
4	2023274	Shinde Mandar Sakharam	
5	2023275	Zhapdekar Salina Samir	
6	2023276	Narvekar Siddharth Deepak	
7	2023277	Agare Yash Ekanath	
8	2023279	Mapari Saad M.Hanif	
	2023280	Amare Satish Vijay	



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

AY 2023-24

CONTINUOUS INTERNAL EVALUATION

(Home Assignment)

Class- B.Sc. First Year (Semester II)

(SUBJECT: Physics)

(Max. Marks – 20)

Name of the Teacher: - Prof. KAMBLE S.M

(Select any two Questions)

- 1) Write a note on Scalar & Vector products of two vectors. Triple vector products
- 2) Explain- Del Operator, Gradient of a scalar function, The divergence of vector function & its physical significance.
- 3) Write down about Ordinary Differential Equations in detail.
- 4) Write down about the characteristics of wave motion, State types of wave, Give mathematical description of a wave.
- 5) Describe the concept- Composition of Simple Harmonic Motion- Equation of linear SHM and its application or Linearity and superposition
- 6) Coulomb's Law- Statement, Explanation, Coulomb's Law in vector form, Limitations of Coulomb's Law
- 7) Explain- Principle of Superposition Electric field due to a single point charge,
- 8) Introduce the bridge circuits, Write a note on- Whetstone's Bridge, Maxwell's Induction Bridge in detail.
- 9) Write down about Biot & Savart Law (Statement), Application of Biot & Savart Law to steady currents, Magnetic field due to a current carrying straight wire.
- 10) Write down about Helmholtz Coil in detail.

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Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

Academic Year 2023-24

Class- B.Sc. First Year (Semester II)

CONTINUOUS INTERNAL EVALUATION
(Home Assignment)

Topics Selected & Submission Schedule

All the F.Y. B.Sc. (Sem- II) Physics students are hereby informed that, their Home Assignment submission schedule is displayed in the Physics department notice board as shown below. It is compulsory to all to submit it on or before the prescribed date.

ROLL No.	NAME OF CANDIDATE	Topic of Home Assignment Selected	Student's Sign	Date of Submission
2023271	Gundye Ansh Rajan	Newton's Laws of Motion		Thursday, 22/02/2024 (09.30 am to 10.00 am)
2023272	Gurav Sanvi Sanjay	Introduction to Aberration in Lenses		
2023273	Lanjekar Yash Naresh	An Introduction to Lens	Y.N. LANJEKAR	
2023274	Shinde Mandar Sakharam	Number Systems		
2023275	Zhapdekar Salina Samir	Applications of Optical Fibre		
2023276	Narvekar Siddharth Deepak	Mass Defect and Binding Energy		
2023277	Agare Yash Ekanath	Rectifier Circuits		
2023279	Mapari Saad M.Hanif	Applications of Bernoulli's Equation		
2023280	Amare Satish Vijay	Heat Engine		

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Department of Physics
A.M.A. & N.C.S.College, Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

AY 2022-23

Class- B.Sc. First Year (Semester II)

CONTINUOUS INTERNAL EVALUATION
(Home Assignment)

Presenty/ Submission Record

DATE:- Thursday, 22/02/2024

As per the schedule, the following students have submitted their Home Assignments.

Sr.No.	ROLL No.	NAME OF CANDIDATE	Home Assignment Submitted	Student's Sign	REMARK
1.	2023271	Gundye Ansh Rajan	Newton's Laws of Motion		
2.	2023272	Gurav Sanvi Sanjay	Introduction to Aberration in Lenses		
3.	2023273	Lanjekar Yash Naresh	An Introduction to Lens	Y.N. LANJEKAR	
4.	2023274	Shinde Mandar Sakharam	Number Systems		
5.	2023275	Zhapdekar Salina Samir	Applications of Optical Fibre		
6.	2023276	Narvekar Siddharth Deepak	Mass Defect and Binding Energy		
7.	2023277	Agare Yash Ekanath	Rectifier Circuits		
8.	2023279	Mapari Saad M.Hanif	Applications of Bernoulli's Equation		
9.	2023280	Amare Satish Vijay	Heat Engine		

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Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

A.Y. 2023-24

Class- B.Sc. First Year (Semester II)

CONTINUOUS INTERNAL EVALUATION
(Home Assignment)

Mark- List

(Date of Home Assignment Submission- Thursday, 22/02/2024)

ROLL No.	NAME OF CANDIDATE	Home Assignment Submitted	Marks Obtained	REMARK
2023271	Gundye Ansh Rajan	Newton's Laws of Motion	10	
2023272	Gurav Sanvi Sanjay	Introduction to Aberration in Lenses	10	(SANVI)
2023273	Lanjekar Yash Naresh	An Introduction to Lens	10	Y.N. LANJEKAR
2023274	Shinde Mandar Sakharam	Number Systems	10	Shinde
2023275	Zhapdekar Salina Samir	Applications of Optical Fibre	09	Zhapdekar
2023276	Narvekar Siddharth Deepak	Mass Defect and Binding Energy	08	Narvekar
2023277	Agare Yash Ekanath	Rectifier Circuits	09	Agare
2023279	Mapari Saad M.Hanif	Applications of Bernoulli's Equation	(AB)	
2023280	Amare Satish Vijay	Heat Engine	(AB)	

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Department of Physics
A.M.A. & N.C.S.College, Rajapur



Rayat Shikshan Sanstha's
Abasaheb Marathe Arts and New Commerce, Science College, Rajapur
Department of Physics

A.Y. 2023-24

Class- B.Sc. First Year (Semester II)

CONTINUOUS INTERNAL EVALUATION
(Home Assignment)

Mark- List

(Date of Home Assignment Submission- Thursday, 22/02/2024)

ROLL No.	NAME OF CANDIDATE	Home Assignment Submitted	Marks Obtained	REMARK
2023271	Gundye Ansh Rajan	Newton's Laws of Motion	10	
2023272	Gurav Sanvi Sanjay	Introduction to Aberration in Lenses	10	(SANVI)
2023273	Lanjekar Yash Naresh	An Introduction to Lens	10	Y.N. LANJEKAR
2023274	Shinde Mandar Sakharam	Number Systems	10	Shinde
2023275	Zhapdekar Salina Samir	Applications of Optical Fibre	09	Zhapdekar
2023276	Narvekar Siddharth Deepak	Mass Defect and Binding Energy	08	Narvekar
2023277	Agare Yash Ekanath	Rectifier Circuits	09	Agare
2023279	Mapari Saad M.Hanif	Applications of Bernoulli's Equation	(AB)	
2023280	Amare Satish Vijay	Heat Engine	(AB)	

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A.M.A. & N.C.S.College, Rajapur



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A.Y. 2023-24 (Term Second)

INTERNAL ASSESSMENT

Class- FY B.Sc. Semester II

Paper- I OPTICS- I

Max. Marks- 25

Time Allotted- 1 hrs.

Date- 01/ 04/2024

Solve all questions
All questions are compulsory.

(10)

Que. 1- Fill in the blanks.

- i) The distance are measured by taking the optical centre of the lens as the
- ii) The magnifying glass makes the words appear much than they actually are..
- iii) To minimize the spherical aberration, two lenses must be at a distance equal to the
- iv) In Huygen's eyepiece the distance between two plano- convex lenses is
- v) A man pushes a wall fails to displace it. He does
- vi) In Ramsden's eyepiece the two plano- convex lenses used have focal lengths in the ratio ...
- vii) When the waves interfere with each other out of phase, then the of intensity is produced.
- viii) The light from a laser typically comes from one atomic transition with a precise wavelength.
- ix) If the excited state electrons release energy in the form of photons or light while falling to the ground state, the process is called
- x) In a step index fibre, the refractive index is inside the core.

(05)

Que. 2- Attempt any one

- i) State the names of five different types of lenses with suitable diagrams.
- ii) Explain the principle foci and focal planes for a lens system/ thick lens with neat diagram.
- iii) Derive the condition for achromatic combination of two thin lenses in contact.

(05)

Que. 3- Attempt any one

- i) Distinguish between Huygen's and Ramsden's eyepiece.
- ii) Write a short note on interference in thin films due to Reflected light.
- iii) Write a short note on Gauss' eyepiece.

(05)

Que. 4- Attempt any one

- i) Explain the spontaneous emission of light.
- ii) Write advantages, disadvantages and applications of He- Ne laser.
- iii) Write a note on temperature sensor.



Rayat Shikshan Sanstha's,
Abasaheb Marathe Arts & New Commerce, Science College, Rajapur
Department of Physics

A.Y. 2023-24

INTERNAL ASSESSMENT

Class- FY B.Sc. Semester II
Paper-II Electricity & Electronics

Date- 01/ 04/2024

Max. Marks- 25

Time Allotted- 1 hrs.

Solve all questions
All questions are compulsory.

(10)

Que. 1- Fill in the blanks.

- i) Form factor for a pure sine wave is
- ii) The r.m.s. value of a sinusoidal A.C. current is equal to its value at an angle of ... degrees.
- iii) bridge is used for comparing capacitance of capacities.
- iv) Superposition theorem is applied to only to circuit having Elements.
- v) For an ideal constant voltage source, internal resistance is
- vi) Rectifier is a device which converts
- vii) Zener diode is always connected in
- viii) The hexadecimal number system has base
- ix) The output of NOR gate is high when both the inputs are
- x) is a universal gate.

(05)

Que. 2- Attempt any one

- i) An electric lamp of 100 volt marked, consumes a current of 10 A. Calculate the inductance of the required choke when it is connected to a 200 volt, 50 Hz A.C. mains.
- ii) Write a short note on Maxwell's inductance bridge.

(05)

Que. 3- Attempt any one

- i) Explain an ideal current source.
- ii) What is filter circuit? Draw the block diagram of rectifier with filter circuit.

(05)

Que. 4- Attempt any one

- i) What is binary number system? Explain how binary number can be converted to equivalent decimal number system.
- ii) If $Y = A + \bar{B}C$, design the circuit diagram using basic gates.