

Participative, Experiential and Problem Solving (2023-24)

A) Participative Learning

“Yoga-Pranayam&Meditation” Trainingprogramme (16-6-23 to 21-6-23)

Students experience attitudinal change and transformation to enhance holistic development of mind, body and soul during programme.



International Yoga Day (21/6/23)



World Population Day (11-07-2023)

Prof. Dr. Chagadev Kudnar guided on adverse effects of population.



Independence Day (15/8/23) Hon. Principal Dr. Hitendra Aher hoisted the flag. The NCC Parade was conducted under leadership of SUO Rakesh Bagal.



Marathi Literary Association (24/08/2024)

Marathi Literary Association was inaugurated by Dr Vinod Gorawadkar.



National Sports Day (29/08/2023)

Sports Day was celebrated by worshipping Major Dhyanchand image. Student's running competitions were organized in the college. Ball Badminton competitions were also held. Outstanding wrestler Kumari Sakshi was given a prize of Rs 11,000/- by Principal Hitendra Aher.





Hindi Din(14/09/2023)Hindi Din was celebrated by arranging activities like Poetry reciting , story tell, One act play and dances etc. by the students.



National Wild life Week(01 to 07 Oct. 2023)National wild Life week was celebrated by arranging Essay Competition, Poster competitions, Elocution Competition , lecture and demonstration of Shri.Sushant Ransur about the information of snakes.



Wallpaper Contest (10/10/2023)

Inaugural Function of Wallpaper Contest on Ahirani Songs, Poetry, Idioms and Phrases was organized by Department of English on the hands of Dr. Milind Ahire



English Literary Association(10/10/2023)

Inaugural Function of English Literary Association on 'English Language and its usefulness' was organized by the Department of English. The chief guest of the programme was Dr. Milind Ahire



Girls Student Personality Development Programme (14/10/2023)

Administrative Officer of Deola Education Society Prof. Dr. Malti Aher delivered a Lecture on personality development



Vachan Prerna Din(14/10/2023)

On the occasion of Anniversary of Dr A P J Abdul Kalap Vachan Prerana din was celebrated by arranging the lecture of Shri Samadhan Bhamare on Impotance of reading.



Participation in Guinness book of world record- Selfie with meri Mati (9/11/2023)

250 volunteers and 3 Programme officers collected 7,500 photographs of Selfie with meriMati and handed over to NSS SPPU for Guinness book of world record.



Constitution Day (26/11/2023)

Prof Dr .Swpnil Garud guided about the Constitution of India.



National Consumer Day (24 /12/2023)Mr. Prajwal elaborated on the rights granted to consumers by the constitution, the rights and responsibilities of consumers.



Blood Donation Camp (30/12/2023)In collaboration of Rotary club of Deola town, Civil Hospital Nashik Blood Donation Camp was organized.



Participation in Adventure camp (30/12 to 8/1/2024)



Nirbhay Kanya Abhiyan (12/1/2024) Nirbhay Kanya Abhiyan was organized by the Board of Students Development .Dr.Seema Khirnar delivered a lecture on the topic ‘Women’s Empowerment and Nation Building’.



Marathi Bhasha Gaurav Din (27/02/2024)

Poetist Pratibha Khairnar recited her own poem on the occasion.



International Women's Day (6/03/2024)

International Women's Day was celebrated by inviting successful alumni of the college.





B) Experiential learning:



The students performing Botany Practicals



The students performing Physics Practicals



The students performing Chemistry Practicals

B) Problem Solving: Mathematics , Physics and Chemistry Department

SRINIVASA PURI UNIVERSITY
Mid-Term (Internal) Exam, March/April 2024
K. R. Narayana Aher Arts, Science & Commerce College Dola (Nashik)
Semester: VI Time: 90 Hrs. Total Marks: 16
Class: BBS Sub. Code: CH-402
Subject: Physical Chemistry-III

Q. No.	1	2	3	Total	Sign. of the Examiner
Marks	04	02	02	08	CH

Instructions: 1. All Questions are compulsory. 2. Figures in the right indicate full Marks.

Q.1. Write correct option in the box in front of questions.

- Solution is (A) mixture of two compounds (B) homogeneous mixture of two compounds (C) solvent and solvent (D) all of the above **B**
- A semipermeable solution allows passage of through it (A) solute only (B) solvent only (C) solute and solvent only (D) none of them **B**
- A solution is (A) Mixture of two three compounds (B) homogeneous mixture different compounds (C) mixture of two compounds (D) All the above **A**
- The depression in freezing point is directly proportional to the..... (A) molality (B) molarity (C) boiling point (D) all of these **C**
- A aqueous solution of salt (NaCl) in water has vapour pressure (A) more than water (B) equal to water (C) less than water (D) double than water **B**
- Von't Hoff equation of n : moles of solute dissolved in V liter of solution (A) $nV = mRT$ (B) $nV = mRT$ (C) $n = CRT$ (D) $nV = nRTV$ **B**

Q.2. State true or false of the following:

- In Kinetics of parabolic rate law surface area of metal plays a major role - **TRUE**
- Electrolyte are substance that does not yields ions in solution - **FALSE**
- In solid state reactions particle size, diffusion, phase transition, does not affect the rate of reactions - **TRUE**
- Osmosis process, solution of a solute is separate by a semipermeable membrane - **FALSE**
- The parabolic rate law, rate is proportional to the $1/X$ ($X =$ thickness) - **TRUE**
- polyethylene and nylon is a natural type of polymer - **FALSE**

Q.3. Answer the questions:

- Osmosis and osmotic pressure. 2) columb's law
- degree of dissociation 4) colligative properties 5) Raoult's law

Osmosis and osmotic pressure:
Osmosis: The movement of the solvent molecules into the solution through a semipermeable membrane is called as osmosis.
Osmotic pressure: osmotic pressure is the mechanical pressure which must be applied to prevent the movement of solvent molecules into the solution through semipermeable membrane.

Coulomb's law: The force of attraction between two charged bodies is directly proportional to their product of their charges and inversely proportional to the square of the distance between them. The formula for Coulomb's law is:
$$E_g = \frac{q_1 q_2}{4\pi \epsilon_0 r^2}$$

degree of dissociation: degree of dissociation is the fraction of electrolyte which undergoes dissociation.

Colligative Properties:
Colligative Properties are related to the solid substances.

Raoult's law: The Raoult's law states that, the total vapour pressure of the solution is the sum of the partial vapour pressure of the volatile components of the solution.

DEOLA EDUCATION SOCIETY'S
KARMAVEER RAMRAOJI AHER ARTS, SCIENCE & COMMERCE COLLEGE
 Deola
 Junior Supervisor Report (For A.Y. 2023-2024)

(SavitribaiPhule Pune University)
Mid-Term (Internal) Exam, APRIL 2024

In. Sup. Sign: [Signature] Seat No.: 01

Kar. Ramraoji Aher Arts, Science & Commerce College Deola (Nashik)

Class: T.Y.B.Sc. Semester: VI Time: 1.00 Hrs. Total Marks: 10

Subject: Electronics II
 Sub.Code: PHY-365-A

Seat No. (In Words): one

Q. No.	1	2	3	4	Total	Sign. of the Examiner
Marks	3	3	4	-	10/10	[Signature]

Instructions: 1. All Questions are compulsory. 2. Figures to the right indicate full Marks.

Que-1: Fill in the blanks.

- One of the most common material used for LED is GaN.
- The approximate efficiency of class A amplifier is 25%.
- The resonant frequency of a tank circuit is given by $f = \frac{1}{2\pi\sqrt{LC}}$.

Que-2: State whether the following statements are true or false.

- IC 555 consists of series of three 5KΩ resistors. True
- JFET is a three terminal bipolar device. false
- In fabrication of IC, usually high value of capacitances are connected externally. True

Que-3: Solve the following examples.

- When a reverse gate voltage of 20 V is applied to a FET, the gate current is 10^3 microampere. Find the resistance between gate and source.
- In class-C amplifier, if a parallel LC circuit consist of inductor of inductance 2 microhenry and capacitor of capacitance 470 picofarad, what will be the resonant frequency?
- Determine the frequency of oscillations for the astable multivibrator using IC 555. Given data is $R_A = R_B = 10$ Kiloohm and $C = 0.01$ microfarad.
- Find the duty cycle of astable multivibrator using IC 555 when $R_A = R_B = R$.

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3. Given, $V_{GS} = 20V$
 $I_G = 10^3 = 10^{-9}A$
 $R_{GS} = \frac{V_{GS}}{I_G} = \frac{20V}{10^{-9}A} = 2 \times 10^{10} \Omega$

4. Given, $L = 2 \times 10^{-6}H$
 $C = 470 = 470 \times 10^{-12}F$
 $f_r = \frac{1}{2\pi\sqrt{LC}} = \frac{1}{2\pi\sqrt{2 \times 10^{-6} \times 470 \times 10^{-12}}} = \frac{1}{6.28 \times 306.59419.43} = 5.18$
 $f_r = 5.18 MHz$

5. Given, $R_A = R_B = R = 10K$
 $C = 0.01$
 $f_r = \frac{1.44}{(R_A + 2R_B)C} = \frac{1.44}{(10 \times 10^3 + 2 \times 10 \times 10^3) \times 0.01 \times 10^{-6}} = \frac{1.44}{(30 \times 10^3) \times 0.01 \times 10^{-6}} = \frac{1.44}{3 \times 10^{-4}} = 4.8 \times 10^{-5} = 480 Hz$

6. $T_1 = 0.693(R_A + R_B)C$
 $T_2 = 0.693 R_B C$
 $T = T_1 + T_2 = 0.693(R_A + R_B)C + 0.693 R_B C$
 $T = 0.693(R_A + 2R_B)C$
 $D = \frac{T_1}{T} = \frac{0.693(R_A + R_B)C}{0.693(R_A + 2R_B)C} = \frac{0.693(2R)C}{0.693(3R)C} = 0.66$ or 66%



Aher
Principal
 Kar. Ramraoji Aher Arts, Sci. & Comm. College, Deola (Nashik)