



TAMIL NADU OPEN UNIVERSITY

Chennai - 15
Department of Physics
School of Sciences

HOME / SPOT ASSIGNMENT

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| Programme Code No | : 181 |
| Programme Name | : B.Sc., Physics |
| Course Code & Name | : BPHY 21 - Heat and Thermodynamics |
| Batch | : AY 2020-21 (2 nd Year) |
| No. of Assignments | : One Assignment for Each 2 Credit |
| Maximum CIA marks | : 15 (Average of Total No. of Assignment) |

ASSIGNMENT -I

Answer any one of the questions not exceeding 1000 words

1. Derive an expression for Maxwell distribution of molecular velocity
2. Derive an expression for thermal conductivity of gases
3. Explain Einstein's theory of heat capacities and Describe the functions of Dulong and Petit's law.

ASSIGNMENT -II

Answer any one of the questions not exceeding 1000 words

1. Derive an expression for Clausius specific latent heat equation
2. Explain the term Entropy in detail and Derive an expression for entropy of perfect gas using T-S diagram
3. Explain the construction, working and efficiency of heat engine

ASSIGNMENT -III

Answer any one of the questions not exceeding 1000 words

1. Give the theory of cylindrical flow of heat. Describe Lee's disc method to find the coefficient of thermal conductivity of a poor conductor.
2. How will you determine the specific heat of liquid by Newton's law of cooling.
3. Write short notes on, (i) Black body radiation and State Stefan's law of heat radiation and derive the law mathematically

ASSIGNMENT -IV

Answer any one of the questions not exceeding 1000 words

1. Explain Bose - Einstien statics
2. Discuss the Application of M - B law to a monoatomic gas
3. Derive an expression for fermi energy using FD statistics.



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Programme Code No : 181
Programme Name : B.Sc., Physics
Course Code & Name : BPHY 22 - **Electricity and Magnetism**
Batch : AY 2020-21 (2nd Year)
No. of Assignments : One Assignment for Each 2 Credits
Maximum CIA marks : 15 (Average of Total No. of Assignment)

ASSIGNMENT -I

Answer any one of the questions not exceeding 1000 words

1. State and explain gauss law and its application(any three)
2. Prove that the electric potential is the negative of line integral of electric field
3. How does the electric potential due to a point charge vary with distance? and Establish an expression for electric potential due to a point charge.

ASSIGNMENT -II

Answer any one of the questions not exceeding 1000 words

1. State and explain Kirchhoff's laws and Derive an expression for bridge balance condition for Wheatstone bridge
2. Explain Seebeck effect and deduce the relation between neutral temperature and temperature of inversion.
3. Explain Measurement of high resistance by leakage

ASSIGNMENT -III

Answer any one of the questions not exceeding 1000 words

1. Obtain an expression for impedance and current in series LCR circuit. Deduce an expression for the frequency of an LCR series resonating circuit?
2. Explain principle, construction, working and applications of transformer
3. State and explain Q factor and Explain Choke coil in detail

ASSIGNMENT -IV

Answer any one of the questions not exceeding 1000 words

1. Discuss the classification of substances on the basis of their magnetic behaviour.
2. Explain Curie's law. What are the importances of hysteresis curve? Explain.
3. Explain the term Magnetic intensity, magnetic permeability and magnetic susceptibility and derive the relation between them



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Programme Code No : 181
Programme Name : B.Sc., Physics
Course Code & Name : BCHEA-02: GENERAL CHEMISTRY
Batch : AY 2020-21
No.of Assignment : One Assignment for Each 2 Credits
Maximum CIA Marks : 15 (Average of Total no of Assignments)

ASSIGNMENT -I

Answer any one of the question not exceeding 1000 words **Marks - 15**

1. Discuss about the following
 - a. Autocatalysts (b)Positive/Negative catalysts (c) Homogeneous/Heterogeneous catalysts
 - b. Natural rubber
2. Describe in details about the Volumetric analysis.
3. Write short notes on Chemical bonds with its types.

ASSIGNMENT -II

Answer any one of the question not exceeding 1000 words **Marks - 15**

1. Write about the storage and handling of the following
 - a. Vaporizable chemicals
 - b. Inflammable chemicals
 - c. Carcinogenic chemicals
 - d. Poisonous chemicals
2. Discuss the following.
 - a. Standard solution
 - b. Indicators
 - c. Titration
 - d. Equivalent/End points
3. Discuss in details about the Mass units and purification of Organic compounds with Examples.