

Course: MPHY111 Classical Mechanics

Assignment: 2

Due date of submission: 23/10/2017 Instructions:

1. Write the response to the assignment in your own handwritings.
2. Submit the response to your H.O.D. within the due date.
3. Write your name, program and enrollment no. clearly at the top of the page.

Q 1(A) Deduce the Lagrangian and Hamiltonian of a relativistic particle.

Q 1(B) Describe Kepler's problem in detail?

Q 2 (A) Explain Poisson bracket and show that they obey distributive law of algebra.

Q2 (B) Explain the concept of virtual work.

Course: MPHY112 ELECTRONICS

Assignment: 2

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Q 1(A) Define the FDM & frequency translation.

Q 1(B) How to achieve threshold reduction in FM receiver?

Q 2 (A) Explain how the various noises are generated and the method of representing them.

Q2 (B) Give the schematic diagram of the TWT (Travelling Wave Amplifier).

Course: MPHY113 Quantum mechanics

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Q 1(a). Explain the transitions probabilities.

Q 1(b) Discuss the WKB approximation and derive the connection formula.

Q 2 (a). Explain special nature of Hydrogen electron orbital.

Q2 (b). Explain linear operator with suitable examples.

Course: MPHY114 Mathematical Physics
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Q 1(A) Solve a general solution of Laplace transformation equation.in circular cylindrical coordinates.

Q 1(B) Discuss the properties of Fourier transformation.

Q 2 (A) Solve Poisson's equation using the Green's function.

Q2 (B) Evaluate $\oint_c \frac{dz}{\sinh 2z}$

Course: PHY115 Fundamental of Renewable Energy Technologies

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Question 1

- (a) As you are aware of solar cooker. Explain the advantages &disadvantages of solar cooker
- (b) Explain calorific value of fuels with common used fuels examples.

Question 2

- a) As you are aware of Photovoltaic Effect .Explain the conditions for Occurrence of Photovoltaic Effect Solar Cell and Efficiency.
- b) Write short note on :
 - i) Organic Loading Rate (OLR). ii) Hydraulic Retention Time (HRT).

Programme: PG

❖ **Course:** COMPUTER FUNDAMENTAL AND ITS APPLICATIONS

❖ **Course code:** MCA-114-4

Due date of submission: 23/10/2017

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Q.1

- a) Discuss the characteristics of computer?
- b) As we disused about computer in details. So, explain the types of computer with the help of an example it will help you to learn more.

Q.2

- a) What do you understand by term computer generation? Explain the types of computer generation in detail.
- b) As we know that software and hardware is the important component of computer. So, explain about hardware and software in detail.