

KENDRIYA VIDYALAYA NO. 2 SALT LAKE
AUTUMN BREAK
HOLIDAY HOMEWORK
SR. SECONDARY SECTION
SESSION:2018-19
AUTUMN BREAK HOME WORK FOR CLASS 11

PHYSICS

SYSTEM OF PARTICLES AND ROTATORY MOTION

1 MARK QUESTIONS

1. Can center of mass be outside the body?
2. What is an isolated system?
3. Is center of mass reality?
4. What is difference between torque and work?
5. Define radius of gyration.
6. How MI changes with rotation?
7. About which axis MI is least?
8. What is the relation between torque and power?
9. Can center of mass of the body coincide with the geometrical center of the body?
10. What is the SI unit of torque?

2 Mark questions

1. What is center of mass? Locate its position in two particle system.
2. Define angular momentum, give its units. Establish the relation between angular momentum and torque.
3. State parallel axis theorem and perpendicular axis theorem.
4. It is easy to balance a bicycle, why? Give the principle behind it.
5. Why is the speed of whirl wind in a tornado so high?
6. If angular momentum is conserved in a system whose moment of inertia is decreased, will its rotational kinetic energy be also conserved? Explain.
7. Why there are two propellers in a helicopter?
8. A particle performs uniform circular motion with an angular momentum L . If the frequency of particle's motion is doubled and its K.E is halved, what happens to the angular momentum?
9. If angular momentum is conserved in a system whose moment of inertia is decreased, will its rotational kinetic energy be also conserved? Explain.
10. An isolated particle of mass m is moving in a horizontal plane (x - y), along the x -axis at a certain height above the ground. It explodes suddenly into two fragments of masses $m/4$ and $3m/4$. An instant later, the smaller fragment is at $y = +15$ cm. What is the position of larger fragment at this instant?

3 MARK QUESTIONS

1. A solid wooden sphere rolls down two different inclined planes of the same height but of different inclinations. (a) Will it reach the bottom with same speed in each case ? (b) Will it take longer to roll down one inclined plane than other ? Explain.
2. There is a stick half of which is wooden and half is of steel. It is pivoted at the wooden end and a force is applied at the steel end at right angles to its length. Next, it is pivoted at the steel end and the same force is applied at the wooden end. In which case is angular acceleration more and why?
3. How will you distinguish between a hard-boiled egg and a raw egg by spinning each on a table top?
4. A thin wheel can stay upright on its rim for a considerable length when rolled with a considerable velocity, while it falls from its upright position at the slightest disturbance when stationary. Give reason.
5. Why is the speed of whirl wind in a tornado so high?

COMPUTER SC.

List-Type C (Programming questions)

Dictionary- Type C (Programming Problem)

ENGLISH

Q1. Design a poster to promote literacy including the disadvantages of illiteracy?

Q2. Write a letter to the editor of the times of india highlight the problems of the co-operative society to which you have recently shifted .

Q3.to enforce strict discipline in school and colleges is a great problem now a days. as Mohan/Mohini write an article in about 100-150 words for the Hindustan time. Delhi about the problem and your views on punishment as corrective measure?

Q4. Landscape of the soul (exercise)?

CHEMISTRY

CHAPTER-Equilibrium

Question-7.2, 7.4, 7.5, 7.6, 7.13, page no.224 and 225 NCERT BOOK

Question-7.35, 7.36, 7.42 PAGE NO.228 NCERT BOOK.

BIOLOGY (XI B)

1. Revised chapter 1 to 12 for half yearly exam .
2. Complete morphology of Cockroach in practical record files.
(Draw diagram of male dorsal and female ventral side)

GEOGRAPHY (XI D)

1. Question-answers of chapter 3 (India) drainage.
2. Map work- Location of rivers on the map of India.
3. Revision of taught lessons for H.Y exam.

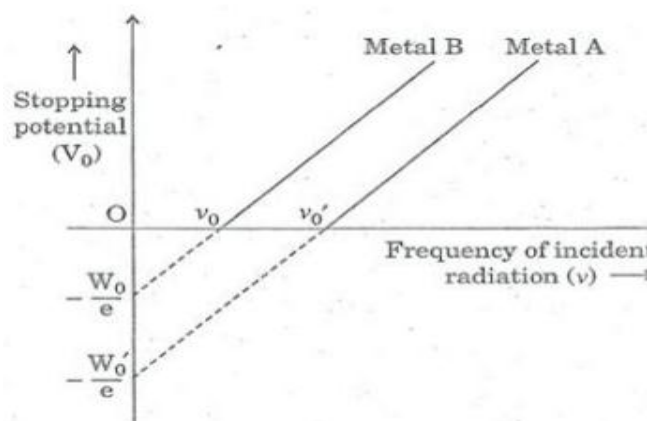
AUTUMN BREAK HOME WORK FOR CLASS 12

PHYSICS

UNIT: 7 - DUAL NATURE OF RADIATION AND MATTER

ONE MARK QUESTIONS:

1. An electron and alpha particle have the same de-Broglie wavelength associated with them. How are their kinetic energies related to each other?
2. The stopping potential in an experiment on photoelectric effect is 2 V. What is the maximum kinetic energy of the photoelectrons emitted?
3. Show graphically, the variation of the de-Broglie wavelength (λ) with the potential (V) through which an electron is accelerated from rest.
4. The graph shows variation of stopping potential V_0 versus frequency of incident radiation ν for two photosensitive metals A and B. Which of the two metals has higher threshold frequency and why?

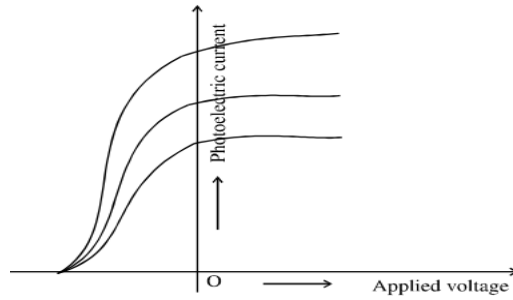


5. Name the phenomenon which shows the quantum nature of electromagnetic radiation.
6. Which experiment establishes the wave nature of the particle?

Which optical phenomenon is exhibited by the particle in famous Davisson – Germer Experiment?

TWO MARKS QUESTIONS:

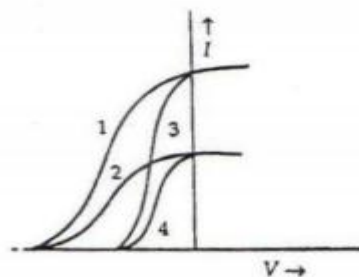
1. In a photoelectric effect experiment, the following graphs were obtained between the photoelectric current and the applied voltage. Name the characteristics of the incident radiation (a) that was kept constant (b) that was variable in this experiment



2. A proton and an α -particle are accelerated through the same potential difference. Which one of the two has (i) greater de-Broglie wavelength, and (ii) less kinetic energy? Justify your answer.

THREE MARKS QUESTIONS

- An electromagnetic wave of wavelength λ is incident on a photosensitive surface of negligible work function. If the photo-electrons emitted from this surface have the de-Broglie wavelength λ_1 , prove that $\lambda = (2mc/h) \lambda_1^2$.
- Plot a graph showing the variation of stopping potential with the frequency of incident radiation for two different photosensitive materials having work functions w_1 and w_2 ($w_1 > w_2$). What is the significance of (i) slope and (ii) intercept of the lines depend?
- (a) Why photoelectric effect cannot be explained on the basis of wave nature of light? Give reasons.
(b) Write the basic features of photon picture of electromagnetic radiation on which Einstein's photoelectric equation is based.
- The given graph shows the variation of photo-electric current (I) versus applied voltage (V) for two different photosensitive materials and for two different intensities of the incident radiation. Identify the pairs of curves that correspond to different materials but same intensity of incident radiation.



5. Light of intensity ' I ' and frequency ' ν ' is incident on a photosensitive surface and causes photoelectric emission. What will be the effect on photo current when
- the intensity of light is gradually increased,
 - the frequency of incident radiation is increased, and
 - the anode potential is increased?

In each case, all other factors remain the same. Explain, giving justification in each case.

6. State two important properties of photon which are used to write Einstein's photoelectric equation.
Define (i) stopping potential and (ii) threshold frequency, using Einstein's equation and drawing necessary plot between relevant quantities.
7. Using photon picture of light, show how Einstein's photoelectric equation can be established. Write two features of photoelectric effect which cannot be explained by wave theory.
8. Draw graphs showing variation of photoelectric current with applied voltage for two incident radiations of equal frequency and different intensities. Mark the graph for the radiation of higher intensity.

COMPUTER SC.

Boolean Algebra-(Long answer questions)

SQL-(Short answer questions)

CHEMISTRY

Chapter-Aldehyde, Ketones and carboxylic acid

Question- 12.4,12.5,12.8,12.12,12.13

i, ii, iii and iv,

12.15 I, ii, iii, v Page no.377 and 378 NCERT BOOK, Exercise question

Chapter-Amines

In text Question 13.1-page no.384 NCERT BOOK

ENGLISH

1. Write down summary of chapter 22 and 23 of "The Invisible Man"
2. Write down new words and literary devices used in the poem "Aunt Jennifer's Tigers"
3. The country needs both agriculture and industry. The govt. has to be the facilitator for the farmer as well as the industrialist. Write a letter in 120-150 words to the editor of a national daily expressing your views on the topic.
4. How does the metaphor of rattrap serve to highlight the human predicament?

ECONOMICS (XII C)

to practice question paper and complete project work for AISSCE 19

- | | |
|--|---|
| 1. What is meant by collusive oligopoly? | 1 |
| 2. What is the condition of short run shut down point? | 1 |
| 3. Availability of agricultural land is limited in the world, but demand of food grains is continuously increasing. Is it possible to increase the supply of food grains by continuously increasing variable factors like seeds, fertilizers etc.? | |
| 1 | |
| 4. State two factors affecting price elasticity of demand. | 1 |

5. What will likely be the impact of large scale outflow of foreign capital on PPC of the economy and why? 3
6. Explain any three factors that cause a leftward shift of supply curve. 3
OR Giving reasons, state whether the following statements are True or False.
- i) In perfect competition, a firm independently determines price.
ii) The difference between Average total cost and average variable cost is constant.
iii) When marginal revenue falls to zero, average revenue is maximum.
7. Define elasticity of supply. The price elasticity of supply of commodity A and B are equal. The price of A falls from Rs 10 to 8 per unit and its quantity supplied falls by 16 %. The price of B rises by 10% . Calculate the percentage increase in its supply. 4
8. State the law of diminishing marginal utility. Explain consumer's equilibrium in case of a single commodity with the help of a utility schedule. 4
9. Explain two features of a) monopoly and b) monopolistic competition. 4
OR Explain two feature of perfect competition. Compare demand curve of perfect competition and monopoly.
10. What are the different phases in the Law of Variable proportions in terms of marginal product? Give reason behind each phase. Use diagram. 6
11. Differentiate between the following :
i) Substitute and complementary goods iii) Normal and inferior goods
ii) Increase in demand and expansion in demand
OR Using Indifference curve approach, explain the conditions of consumer's equilibrium. use diagram.
12. If equilibrium price of a good is greater than its market price, explain all the changes that will take place in the market. Use diagram. 6
13. The rate at which Central Bank are allowed to park their surplus funds with the RBI is 1
a) Bank rate b) Repo rate c) Currency rate d) Reverse Repo rate
14. Find saving function when consumption function is a $s C= 1000+ 0.6 Y$ 1
15. What is meant by aggregate demand? 1
16. State two limitations of using GDP as an index of welfare of a country. 1
17. Explain the Bankers' Bank function of the central bank. 3
OR Explain the problem of double coincidence of wants faced under Barter system. How has money solved it?
18. Explain the problem of double counting in estimating National income with the help of an example. 3
19. Explain the Credit creation role of commercial bank with the help of a numerical example. 4
20. In an economy the autonomous Investment is 360 and the MPS is 0.3. If the equilibrium level of income is 1400 then autonomous consumption is 40. True or False Justify. 4
OR Complete the following table:

Income (Y)	Consumption (C)	MPS	APS
0	80	x	x
100	140	0.4

200	0
.....	260	0.20
.....		0.8	0.35

21. A) Find NVA_{MP} (Rs in crores) 2+2
- | | |
|---|-------|
| i) Fixed capital good with a life span of 5 years | 15 |
| ii) Intermediate cost | 6 |
| iii) Sales | 25 |
| iv) Net change in stock | (-) 2 |
| v) Taxes on production | 1 |
- B) How will the following be treated while estimating National income of India? Give reasons.
- Values of bonus shares received by shareholders of a company.
 - Salaries paid to Non Residents Indian working in Indian embassy in America.
22. Explain briefly any four instruments of monetary policy to control credit. 6
OR Explain four functions of central bank.
23. Explain how is equilibrium level of income and employment established through Ad and AS? Explain all the changes that will take place in an economy when AD is not equal to AS. Use Diagram. 6
24. Calculate GNPFC by a) income method and b) expenditure method. (Rs in crores) 6
- | | |
|--|--------|
| i) Govt. Final Consumption Expenditure | 1200 |
| ii) Net Domestic Fixed Capital Formation | 650 |
| iii) COE | 1050 |
| iv) Profit | 550 |
| v) Private Final Consumption Expenditure | 1500 |
| vi) Mixed Income | 850 |
| vii) Change in stock | (-) 50 |
| viii) Rent | 250 |
| ix) Interest | 300 |
| x) Net Factor Income From Abroad | (-) 50 |
| xi) Consumption of fixed capital | 150 |
| xii) Net indirect Tax | 210 |
| xiii) Net export | (-) 90 |

BIOLOGY (XII B)

- Completion and submission of project of CBSE on 23rd October Or 24th October.
- Submission date for practical files and observation copy on 29th October.
- 12 Questions – 3 M/Q from 2017 Question Paper should be done in Classwork Only.
- Section D (Periodic test 4) Study verbally and then write.

GEOGRAPHY (12 D)

- Question answer of Transport and communication (India)
- Mapwork- Transport and communication
- Mapwork- International trade
- Revision of all taught chapter for first pre-board