KENDRIYA VIDYALAYA NO-5, BBSR

HOLIDAY HOMEWORK

CLASS: XII   **SUBJECT : ENGLISH**

AUTUMN BREAK HW CLASS XII

ENGLISH

Holiday Homework

1.You are the Secretary of the English Literary Association of Tagore Memorial School, Patna. Write out a notice for noticeboard, inviting names of those who would like to participate in the proposed inter-house debate, oratorial and elocution contest.

2.You are Rahul /Rashmi. As President of the Literary Club of your school; you have organised an inter-school debate competition on the occasion of the Silver Jubilee celebrations of your school. Write a notice in about 50 words, informing the students of your school about the competition.

3. You are Ravi/Rachna. As President of the Cultural Forum of your school, you have organised an inter-school orchestra competition on the occasion of the Silver Jubilee celebrations of your school. Write a notice in about 50 words, informing the students of your school about this competition

4. You are Pradeep /Asha. As President of the Dramatic Club of your school; you have organised an inter-school competition in one-act plays on the occasion of the Silver Jubilee celebrations of your school. Write a notice in about 50 words, informing the students of your school about this proposed event.

5. You are President of the Cultural Society of your school. You are planning to organise a cultural programme. Write a notice for the school noticeboard inviting names of students willing to participate. You are Sudhir, the secretary of the society.

6.Draft an invitation on behalf of Mr & Mrs Raj Karan of 38, Kamal Kunj, Varanasi, which they may use to invite their friends and relatives on the 5th birth anniversary of their son Nikhil at their residence on 28 December 20XX.

7. Your sister Nivedita is going to marry Akhilesh (S/o Mr & Mrs SM. Joshi, Nainital) Your father Mr K.S. Bhardwaj has planned to hold the wedding at Hotel Kunal, New Delhi on 25 May 20XX at 8 p.m. Write a formal invitation on behalf of Mr & Mrs K.S. Bhardwaj inviting guests to the auspicious occasion. Give other details. Do not exceed 50 words.

8. You are the Director of Apex Orientations, a leading name in postal coaching for competitive examinations including IIT-JEE and CBSE-PMT. Write letters to the principals of some prestigious schools inviting the names of two brilliant students from each institution to attend their Counselling Session free of cost.

9. Rohit has got success in CBSE-PMT. He wants to celebrate his admission to Shivaji Medical College, Nagpur by throwing a party to his friends. Write an informal invitation giving details of venue, time and date. Do not exceed 50 words

10. Your parents have completed 25 years of happy married life. Invite your aunt, living in Hyderabad, to join you in the Silver Jubilee celebration of their marriage at your residence.

11. You were invited by the local unit of Boogie Woogie, a talent search organisation, to make a selection of the local teams for participation in the zonal competition and performance at the national level. But you are not in a position to do so because you have met with an accident. Write a letter to the convener regretting your inability to honour the request explaining to him your position. You are Arun/Aruna Joglekar.

12.You have received an invitation to attend the prize giving ceremony on the occasion of the Regional Social Sciences Exhibition. Write a letter to the Secretary of the 'The World View' (the organiser of the exhibition) informing him about your inability to attend. Give three reasons.

13.You were invited by a friend of yours to spend some days at his farmhouse in Manali during the summer vacation. Respond to his invitation.

14.Write an informal reply to your pen-friend in the U.K assuring her of all help and guidance dining her planned forthcoming visit to India.

15. You are Karthik/Krithika of Chennai. Of late, chain-snatching incidents are increasing in the city. Write a letter to the Editor of The New Indian Express Drawing the attention of the concerned authorities. Also give suggestions.

16.You are Anand/Anandi of Mumbai. You are upset to find that the only public garden of your locality has been grabbed by the local self-styled 'Netas'. Write a letter to the Editor of The Hindu drawing the attention of the government to this unauthorised occupation. ('Word limit: 150 words)

17. You are Ankit/Amrita, staying at 4 Pycrofts Road, Chennai. You have come across an advertisement in The Times of India for recruitment of computer engineer trainees by Shivam Software. Apply in response to this advertisement, giving your detailed bio-data (curriculum vitae). Invent all necessary details.

18.You are Rohan Khanna of 149 Circular Road, Panipat. Write an application to the Manager, D.A.V. Senior Secondary School, Panipat in response to an advertisement for the post of a music teacher in that school.

19.Go through the stories Indigo and Poets and Pancakes. Write brief summary of both the lessons.

20.Go through the stories On the face of it and write a brief summary.

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HOLIDAY HOMEWORK

CLASS: XII   **SUBJECT** : **PHYSICS**

AUTUMN BREAK HW CLASS XII

PROJECT

1   PREPARE   AN   INVESTIGATORY   PROJECT   BASED   ON   CONCEPTS   TAUGHT   (ELECTRICITY,MAGNETISM,OPICS,SEMICONDUCTOR)

REFER THE the suggested investigatory part of physics syllabus 2022-23)
https://cbseacademic.nic.in/web_material/CurriculumMain23/SrSec/Physics_SrSec_2022-23.pdf

ANSWER THE FOLLOWING QUESTIONS

Q1 A small candle, 2.5 cm in size is placed at 27 cm in front of a concave mirror of radius of curvature 36 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? Describe the nature and size of the image. If the candle is moved closer to the mirror, how would the screen have to be moved?

Q 2 A 4.5 cm needle is placed 12 cm away from a convex mirror of focal length 15 cm. Give the location of the image and the magnification.Describe what happens as the needle is moved farther from the mirror.

Q3   A tank is filled with water to a height of 12.5 cm. The apparent depth of a needle lying at the bottom of the tank is measured by a microscope to be 9.4 cm. What is the refractive index of water? If

water is replaced by a liquid of refractive index 1.63 up to the sameheight, by what distance would the microscope have to be moved to focus on the needle again?

Q4 A small bulb is placed at the bottom of a tank containing water to a depth of 80cm. What is the area of the surface of water through which light from the bulb can emerge out? Refractive index of water

is 1.33. (Consider the bulb to be a point source.)

Q5 A prism is made of glass of unknown refractive index. A parallel beam of light is incident on a face of the prism. The angle of minimum deviation is measured to be 40°. What is the refractive index of the

material of the prism? The refracting angle of the prism is 60°. If the prism is placed in water (refractive index 1.33), predict the new angle of minimum deviation of a parallel beam of light.

Q6   Double-convex lenses are to be manufactured from a glass of refractive index 1.55, with both faces of the same radius of curvature. What is the radius of curvature required if the focal length is to be 20cm?

Q7   A beam of light converges at a point P. Now a lens is placed in the path of the convergent beam 12cm from P. At what point does the beam converge if the lens is (a) a convex lens of focal length 20cm, and (b) a concave lens of focal length 16cm?

Q8   An object of size 3.0cm is placed 14cm in front of a concave lens of focal length 21cm. Describe the image produced by the lens. What happens if the object is moved further away from the lens?

Q9 In half-wave rectification, what is the output frequency if the input frequency is 50 Hz. What is the output frequency of a full-wave rectifier for the same input frequency.

Q10   A p-n photodiode is fabricated from a semiconductor with band gap of 2.8 eV. Can it detect a wavelength of 6000 nm? the ratio of Ga:As is 1:1 but in Ga-rich or As-rich GaAs it could respectively be Ga1.1 As0.9 or Ga0.9 As1.1. In general, the presence of defects control the properties of semiconductors in many ways.

11 Solve the ncert exercise questions from ray optics q no. 9.20 to 9.25

HOLIDAY HOMEWORK

CHEMISTRY

CLASS XII-A

1. Give the IUPAC names of the following compounds:
   (i) $CH_3CH(Cl)CH(Br)CH_3$ (ii) $CHF_2CBrClF$ (iii) $ClCH2C^oCCH_2Br$
   (iv) $(CCl_3)_3CCl$ (v) $CH_3C(p-ClC_6H_4)_2CH(Br)CH_3$ (vi) $(CH_3)_3CCH=CClC_6H_4I-p$ (vii) $C_6H_5–O–C_2H_5$ (viii) $C_6H_5–O–C_7H_{15}(n–)$

2.Which one of the following has the highest dipole moment?
   (i) CH_2Cl_2 (ii) $CHCl_3$ (iii) CCl_4

Which compound in each of the following pairs will react faster in SN2 reaction with –OH?
(i) CH_3Br or CH_3I (ii) $(CH_3)_3CCl$ or CH_3Cl

3. Predict all the alkenes that would be formed by dehydrohalogenation of the following halides with sodium ethoxide in ethanol and identify the major alkene:
  (i) 1-Bromo-1-methylcyclohexane (ii) 2-Chloro-2-methylbutane
  (iii) 2,2,3-Trimethyl-3-bromopentane.

4. Explain why
  (i) the dipole moment of chlorobenzene is lower than that of cyclohexyl chloride?
  (ii) alkyl halides, though polar, are immiscible with water?

5. What happens when
(i) n-butyl chloride is treated with alcoholic KOH,
(ii) bromobenzene is treated with Mg in the presence of dry ether,

(iii) chlorobenzene is subjected to hydrolysis,
(iv) ethyl chloride is treated with aqueous KOH

6. Alcohols are comparatively more soluble in water than hydrocarbons of comparable molecular masses. Explain this fact.

7. Show how will you synthesise:
 (i) 1-phenylethanol from a suitable alkene.
 (ii) cyclohexylmethanol using an alkyl halide by an SN2 reaction.

8. Explain briefly how +2 state becomes more and more stable in the first half of the first row transition elements with increasing atomic number?

9. Which metal in the first series of transition metals exhibits +1 oxidation state most frequently and why?

10. The chemistry of the actinoid elements is not so smooth as that of the lanthanoids. Justify this statement by giving some examples from the oxidation state of these elements.

11. Compare the chemistry of the actinoids with that of lanthanoids with reference to:
    (i) electronic configuration (ii) oxidation states and (iii) chemical reactivity

12. What is lanthanoid contraction? What are the consequences of lanthanoid contraction?

13. What are the characteristics of the transition elements and why are they called transition elements? Which of the d-block elements may not be regarded as the transition elements?

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HOLIDAY HOMEWORK

CLASS: XII   **SUBJECT : MATHEMATICS**

CONTINUITY AND DIFFRENTIABILITY

1. For what value of k is the following function continuous at $x = 2$?

$$f(x) = \begin{cases} 2x + 1 \,; x < 2 \\ \quad k \,; x = 2 \\ 3x - 1 \,; x > 2 \end{cases}$$

2. If $f(x) = \begin{cases} 3ax + b, & \text{if} \quad x > 1 \\ 11 & \text{if} \quad x = 1 \\ 5ax - 2b, & \text{if} \quad x < 1 \end{cases}$, continuous at $x = 1$, find the values of a and b.

4. If $x = a\left(\cos\theta + \log\tan\dfrac{\theta}{2}\right)$ and $y = a\sin\theta$ find $\dfrac{dy}{dx}$ at $\theta = \dfrac{\pi}{4}$.

5. If $y = (\log x)^{\cos x} + \dfrac{x^2 + 1}{x^2 - 1}$, find $\dfrac{dy}{dx}$.

APPLICATIONS OF DERIVATIVES.

1) Water is leaking from a conical funnel at the rate of 5 cm³/sec. If the radius of the base of the funnel is 10 cm and altitude is 20 cm, Find the rate at which water level is dropping when it is 5 cm from top.

2) Find the intervals in which the function $f(x) = \sin x - \cos x$, $0 < x < 2\pi$ is increasing or decreasing.

3) Find the interval in which the function $f(x) = 2x^3 + 9x^2 + 12x + 20$ is (i) increasing (ii) decreasing

4) Show that the height of cylinder of maximum volume that can be inscribed in a sphere of radius R is $\dfrac{2R}{\sqrt{3}}$.

5) Show that the semivertical angle of a cone of maximum volume and of given slant hight is $\tan^{-1}\sqrt{2}$.

DEFINITE INTEGRALS

1. $\displaystyle\int_{0}^{\pi/2} \dfrac{\sqrt{\tan x}}{1 + \sqrt{\tan x}}\,dx$

2. $\displaystyle\int_{1}^{3} \dfrac{\sqrt{4-x}}{\sqrt{x} + \sqrt{4-x}}\,dx$

3. $\displaystyle\int_{0}^{\pi/2} \dfrac{\sin^4 x}{\sin^4 x + \cos^4 x}\,dx$

4. $\displaystyle\int_{0}^{\pi/2} \dfrac{x}{\sin x + \cos x}\,dx$

5. $\displaystyle\int_{0}^{\pi} \dfrac{x\sin x}{1 + \cos^2 x}\,dx$

6. $\displaystyle\int_{0}^{\pi} \dfrac{x\tan x}{\sec x.\csc x}\,dx$

7. $\displaystyle\int_{\pi/6}^{\pi/3} \dfrac{dx}{1 + \sqrt{\tan x}}$

8. $\displaystyle\int_{0}^{\pi} \dfrac{x}{1 + \sin x}\,dx$

9. $\displaystyle\int_{0}^{\pi} \dfrac{x + \sin x}{1 + \cos x}\,dx$

APPLICATIONS OF INTEGRATION

1. Find the area of the region included between the parabola $y^2 = x$ and the line $x + y = 2$.

2. Find the area of the region bounded by $x^2 = 4y$, $y = 2$, $y = 4$ and the y-axis in the first quadrant.

3. Find the area under the curve $y^2 = x$ and $x^2 = y$

CLASS-XII BIOLOGY

CHAPTER-5 PRINCIPLES OF INHERITANCE AND VARIATION

1. How is incomplete dominance different from Co-dominance? Give one example of each.
2. Who proposed chromosomal theory of inheritance? List the main points.
3. What is a test cross? What is it's importance?
4. Describe two situations in which independent assortment of genes results in 50% combination.
5. How sex determination is in Andalusian fowl is different from that of human?
6. How many genes are responsible for
    (a) ABO system of blood group
    (b) Skin colour of man
7. Describe two methods by which parental genes may form new combination.
8. Write one similarities and one dissimilarities between Kleinfelter syndrome and Downs syndromes.
9. Expand PKU .What happened in this type of Mendelian disorder?
10. Write any 4 advantages of selecting pea plant for experiment by Mendel.

CHAPTER 6: MOLECULAR BASIS OF INHERITANCE

1. Out of DNA and RNA,which is chemically more stable and why?
2. What criteria does a molecule must fulfill to act as a genetic material?
3. Mention the two steps that in activation of amino acid transaction.
4. What do you mean by semi conservative nature of the DNA?
5. What are Okazaki fragments? Name the enzyme that joins them.
6. AUG GAC CUG AUA UUU UGA is the base sequence in a strand of mRNA.
    (a)Write the base sequence of the DNA strand from which it has been transcribed.
    (b) Upon translation how many acids will be the resulting peptide have.
7. Match the column

A	B
DNA polymerase	cut and join one strand of DNA helping separation of DNA Helix
Topoisomerase	Formation of RNA primer
Helicase	Catalyse the polymerisation of deoxynucleotides
Primase	Unwinding of the DNA Helix

8. How is operator switch on for lactose digestion in E coli?
9. What is DNA fingerprinting? Mention it's any two applications.

CHAPTER 10: EVOLUTION
1. What is the period of origin of Earth and origin of life?
2. What were the gases used in Miller and Urey experiment and what were the end products of this experiment?
3. Among the pea tendrils, opuntia, spines, lemon thorn and cucurbita tendrils, which are homologous structure and why?
4. What do you mean by ontogeny repeats phylogeny?
5. What are the evidences of evolution?
6. What is adaptive radiation? Give one example.

7. What do you mean by Hardy Weinberg principle?
8. What are the factors that can affect Hardy Weinberg principle?
9. Differentiate between convergent and divergent evolution.
10. How does natural selection operates according to the Darwin theory of natural selection?

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HOLIDAY HOMEWORK

CLASS: XII   **SUBJECT** : CS

: Interface Python with SQL

Q1. What is MySQLdb?

Q2. What is resultset?

Q3. What is database cursor?

Q4. What is database connectivity?

Q5. Which function do use for executing a SQL query?

Q6. Which package must be imported to create a database connectivity application?

Q7. Differentiate between fetchone() and fetchall()

Q8. How we can import MYSQL database in python?

Q9. Write a query to rename the name of the artist from Towang to Tauwang.

Q10. Write a query to delete an entity from the table Artists whose id is 1

Q. 11 Write a small python program to insert a record in the table books with   attributes (title   ,isbn).

Q. 12 Write a small python program to retrieve all record from the table books with attributes (title ,isbn).

RxID	DrugID	DrugName	Price	PharmacyName	PharmacyLocation
R1000	5476	Amlodipine	100.00	Rx Pharmacy	Pitampura, Delhi
R1001	2345	Paracetamol	15.00	Raj Medicos	Bahadurgarh, Haryana
R1002	1236	Nebistar	60.00	MyChemist	Rajouri Garden, Delhi
R1003	6512	VitaPlus	150.00	MyChemist	Gurgaon,Haryana
R1004	5631	Levocitrezine	110.00	RxPharmacy	South Extension,Delhi

To increase the price of "Amlodipine" by 50.

To display all those medicines whose price is in the range 100 to 150.

To display the Maximum price offered by pharmacy located in "Gurgaon"

To display sum of price for each PharmacyName having more than 1 drug.

To display Maximum and Minimum price

Write the output(s) produced by executing the following queries:
SELECT RxID, Price from PharmaDB where PharmacyNa IN ("Rx Parmacy",   "Raj Medicos");

SELECT PharmacyName, COUNT(*) FROM PharmaDB GROUP BY PHARMACY NAME

Difference between Update and Alter