

## Class XI Holidays Homework Session 2019-20

### English

1. **Unseen passages-** Students must solve the following passages in the notebook.
2. **Writing Practice questions-** Practice Questions based on-Notice Writing ,Article Writing, Formal Letters, report Writing must be practices in the class notebook.
3. Questions on **Integrated Grammar** Practice to be solved in the notebook.
4. Questions on **Integrated Literature** Practice to be solved in the notebook.
5. **Book Review** on any one suggested reading to be done separately

S.No	Questions	Marks
1	<p><b>Passage 1</b></p> <p>Read the following passage carefully and answer the questions that follow:</p> <ol style="list-style-type: none"> <li>1. So great is our passion for doing things for ourselves that we are becoming increasingly less dependent on specialized labor. No one can plead ignorance of a subject any longer, for there are countless do-it-yourself publications. Armed with the right tools and materials, newly-weds gaily embark on the task of decorating their own homes. Men of all ages spend hours of their leisure installing their own fire-places, laying out their own gardens; building garages and making furniture. Some really keen enthusiasts go so far as to make their own record players and radio transmitters. Shops cater for the do-it-yourself craze not only by running special advisory services for novices, but by offering consumers bits and pieces which they can assemble at home. Such things provide an excellent outlet for pent-up creative energy, but unfortunately not all of us are born handymen.</li> <li>2. Wives tend to believe that their husbands are infinitely resourceful and versatile. Even husbands who can hardly drive a nail in straight are supposed to be born electricians, carpenters, plumbers and mechanics. When the light fuse, furniture gets rickety, pipes get clogged, or vacuum cleaners fail to operate, wives automatically assume that their husbands will somehow put things right. The worst thing about the do-it-yourself game is that sometimes husbands live under the delusion that they can do anything even when they have been repeatedly proved wrong. It is a question of pride as much as anything else.</li> <li>3. Last spring my wife suggested that I call in a man to look at our lawnmower. It had broken down the previous summer, and though I promised to repair it, I had never got round to it. I wouldn't hear of the suggestion and said that I would fix it myself. One Sunday afternoon I hauled the machine into the garden and had a close look at it. I was not at all iffy about my skills and observed it like a professional technician would have eyed it. I moved all around the machine to analyze its every groove and bolt. After an hour's scrutiny, I decided to work hands-on the machine. To me, overall the machine needed only a minor adjustment: a turn of a screw here, a little tightening up there, a drop of oil and it would be as good as new. I did not waste more time in reevaluating my decision-making skills and sat down to mend it out. Inevitably the repair job was not quite so simple. The mower firmly refused to mow, so I decided to dismantle it. The garden was soon littered with chunks of metal which had once made up a lawn mower. But I was extremely pleased of myself. I had traced the cause of trouble. One of the links in the chain that drives the wheels had snapped.</li> <li>4. But the mess all around me filled me with fear. For one moment my own decision of getting it repaired myself irked me a lot. But the other moment, I despised it and moved ahead all full of confidence. I decided to go to the market to buy a new chain. But oops! Whom and where to go. I wasn't much aware of the market too. I quietly called up my servant. Quietly because I did not want to be laughed at, and in no way by my wife. I gathered the required information from him and got all set to browse the nearby market. I went into the hardware shop to get a new chain.</li> <li>5. After buying a new chain I was faced with the insurmountable task of putting the confusing jigsaw puzzle together again. I was not surprised to find that the machine still refused to work, after I had reassembled it, for the simple reason</li> </ol>	<p><b>6 x1 =</b> <b>6</b></p>

	<p>that I was left with several curiously shaped bits of metal which did not seem to fit anywhere. I gave up in despair. The weeks passed and the grass grew. When my wife nagged me to do something about it, I told her that either I would have to buy a new mower or let the grass grow. Needless to say that our house is now surrounded by a jungle. Buried somewhere in deep grass there is a rusted lawnmower which I have promised to repair one day.</p> <p>Answer the following questions briefly</p> <ol style="list-style-type: none"> <li>Why do people not rely on specialized labor so much nowadays, according to the writer?</li> <li>What do wives tend to believe about their husbands?</li> <li>Why do husbands think that they can do anything even when proved otherwise?</li> <li>What is the disadvantage of do-it –yourself game?</li> <li>Why could the author not fix the lawnmower?</li> <li>Why didn't the author call a mechanic to fix the lawnmower?</li> </ol> <p>Find the words from the passage which means the same as:</p> <ol style="list-style-type: none"> <li>Beginners (para1)</li> <li>zealous (para1)</li> </ol>	<b>2x1=2</b>
<b>2</b>	<p><b>E 2</b></p> <ol style="list-style-type: none"> <li>From the ramparts of the Red Fort for some years now, our Prime Ministers have been promising the eradication of child labor in hazardous industries. The truth is, if the government really wanted, child labor in hazardous industries could have been eliminated long time ago, and yes, every Indian child would have been in school by 2003.</li> <li>The government has failed to eliminate this dehumanization of childhood. It has also failed to launch compulsory primary education for all, despite the rhetoric. Between 60 and 100 million children are still at work instead of going to school and around 10 million are working in hazardous industries. India has the biggest child population of 380 million in the world, plus the largest number of children who are forced to earn a living.</li> <li>We may have many laws that ban child labor in hazardous industries. According to the child labor (Prohibition and Regulation) Act, 1986, the employment of children (below the age of 14) in hazardous occupations has been strictly banned. But each state has different rules regarding the minimum age of employment; this makes implementation of these laws difficult.</li> <li>Also, there is no ban on child labor in non-hazardous occupations. The act applies to the organized factory sector and not to the unorganized or informal sector where most children find employment as cleaners, servants, porters, waiters, among other forms of unskilled work. Thus, child labor continues because the implementation of the existing laws is lax.</li> <li>There are industries which have a 'special' demand for child labor because of their nimble fingers, high level of concentration and capacity to work hard at abysmally low wages. The carpet industry in UP and Kashmir employs children to make hand-knitted carpets; there are 80,000 child workers in J&amp;K alone. In Kashmir, because of the political unrest, children are forced to work while many schools are shut. Industries like gem-cutting and polishing, pottery and glass want to remain competitive by employing children.</li> <li>The truth is that it's poverty which is pushing children into the brutish labor market. We have 260 million people below the poverty line in India; a large number of them are women. Poor, vulnerable parents, especially women-headed families have no-option but to push their little ones in this hard life in hostile conditions, with no human or labor rights.</li> <li>There is a lobby which argues that there is nothing wrong with children working as long as the environment for work is conducive for learning new skills. But studies have shown that children made to do boring, repetitive and tedious jobs and are not taught new skills as they grow older. In these hell-holes, like the sweatshops of old, there is no hope.</li> </ol>	



<p>3.1</p> <p>3.2</p>	<p>words from a series of menus on the screen: by pressing a switch, operated by head or eye movement. When I have built up what I want to say, I can send it to a speech synthesizer. At first, I just ran the Equalizer programme on a desktop computer.</p> <p>4. However, David Manson of Cambridge Adaptive Communication, fitted a small portable computer and a speech synthesizer to my wheel chair. This system allowed me to communicate much better than I could before. I can, manage upto 15 words a minute. I can either speak what I have written, or save it to disk. I can then print it out, or call it back and speak it sentence by sentence. Using this system, I have written a book, and dozens of scientific papers. "I have also given many scientific and popular talk. They have all been well received. I think that is in large part due to the quality of the speech synthesizer, which is made by Speech Plus. One's voice is very important. If you have a slurred voice, people are likely to treat you as mentally deficient. "This synthesizer is by far the best I have ever heard, because it varies the intonation, and does not speak like a Dalek. The only trouble is that it gives me an American accent.</p> <p>5. I have had motor neuron disease for practically all my adult life. Yet it has not prevented me from having a very attractive family, and being successful in my work. This is thanks to the help I have received from Jane, my children, and a large number of other people and organizations. I have been lucky, that my condition has progressed more slowly than is often the case. But it shows that one need not lose hope.</p> <p><b>Answer the following questions briefly:</b></p> <p>a. What was the cause of great shock for Stephen Hawking?</p> <p>b. What symptoms of the disease were obvious during the early period of his life?</p> <p>c. What was the major side effect of tracheotomy operation? How did he try to overcome it?</p> <p>d. What is an equalizer? How did it help Stephen Hawking?</p> <p>e. How did the speech synthesizer help him?</p> <p><b>Find out the words from the paras of the above passage having opposite meaning to:</b></p> <p>a. Hope</p> <p>b. Smooth</p> <p>C) Analyser</p>	<p>5x1=5</p> <p>3x1=3</p>
<p>4.</p>	<p><b>Read the passage carefully.</b></p> <p>1. To make our life a meaningful one, we need to mind our thoughts, for our thoughts are the foundation, the inspiration, and the motivating power of our deeds. We create our entire world by the way we think. Thoughts are the causes and the conditions are the effects.</p> <p>2. Our circumstances and conditions are not dictated by the world outside; it is the world inside us that creates the outside. Self-awareness comes from the mind, which means soul. Mind is the sum total of the states of consciousness grouped under thought, will and feeling. Besides self-consciousness we have the power to choose and think. Krishna says: "<i>no man resteth a moment inactive</i>". Even when inactive on the bodily plane, we are all the time acting on the thought plane. Therefore, if we observe ourselves, we can easily mould our thoughts. If our thoughts are pure and noble, naturally actions follow the same.</p> <p>3. Karmically, however, thought or intent is more responsible and dynamic than act. One may perform a charitable act, but if he does not think charitably and is doing the act just for the sake of gain and glory, it is his thoughts that will determine the result. Theosophy teaches us that every thought, no matter how fleeting, leaves a seed in the mind of the thinker. These small seeds together go to make up a large thought seed and determine one's general character. Our thoughts affect the whole body. Each thought once generated and sent out becomes independent of the brain and mind and will live upon its own energy depending upon its intensity.</p> <p>4. Trying to keep a thought from our mind can produce the very state we are trying to avoid. We can alter our environment to create the mood. When, for instance, we are depressed, if we sit by ourselves trying to think cheerful thoughts, we often do not succeed. But if we mix with people who are cheerful we can bring about a change in</p>	

	<p>our moods and thoughts. Every thought we think, every act we perform, creates in us an impression, like everything else, is subject to cyclic law and becomes repetitive in our mind. So, we alone have the choice to create our thoughts and develop the kind impressions that make our action more positive.</p> <p>5. Let us choose the thought seeds of right ideas, noble and courageous aspirations that will be received by minds of the same nature. Right introspection will be required of us to determine what we really desire to effect. Everything in the universe is inter-related and inter-dependent, that we live in one another and by accepting the grand principle of universal brotherhood we shall be in a position to appreciate what a heavy responsibility is ever ours to think right. Let us reflect and send loving and helpful thoughts and lighten the load of the world's suffering.</p>	
<b>4.1</b>	<b>Answer the following questions briefly.</b>	<b>6x1=6</b>
<b>a)</b>	Why does Krishna say "no man rested a moment inactive"?	
<b>b)</b>	How do our thoughts affect the whole body?	
<b>c)</b>	When we are depressed, how can we change our mood?	
<b>d)</b>	What is required of us to determine what we really wish to effect?	
<b>e)</b>	What is true charity?	
<b>f)</b>	Karmically, what is more dynamic- intent or an act and why?	
<b>1.3</b>	<b>Find words from the passage which mean the same as:</b>	<b>2x1=2</b>
<b>a.</b>	Short lived – para 3	
<b>b.</b>	Strength and depth (para 3)	
<b>c.</b>	<p><b>5. Read the passage given below carefully.</b></p> <p>1. By the time a child is six or seven, she has all the essential avoidances well enough by heart to be trusted with the care of a younger child. And she also develops a number of simple techniques. She learns to weave firm square balls from palm leaves, to make pinwheels of palm leaves or frangipani blossoms, to climb a coconut tree by walking up the trunk on flexible little feet, to break open a coconut with one firm well-directed blow of a knife as long as she is tall, to play a number of group games and sing the songs which go with them, to tidy the house by picking up the litter on the stony floor, to bring water from the sea, to spread out the copra to dry and to help gather it in when rain threatens, to go to a neighbouring house and bring back a lighted faggot for the chief's pipe or the cook-house fire.</p> <p>2. But in the case of the little girls, all these tasks are merely supplementary to the main business of baby-tending. Very small boys also have some care of the younger children, but at eight or nine years of age they are usually relieved of it. Whatever rough edges have not been smoothed off by this responsibility for younger children are worn off by their contact with older boys. For little boys are admitted to interesting and important activities only so long as their behaviour is circumspect and helpful.</p> <p>3. Where small girls are brusquely pushed aside, small boys will be patiently tolerated and they become adept at making themselves useful. The four or five little boys who all wish to assist at the important, business of helping a grown youth lasso reef eel, organize themselves into a highly efficient working team; one boy holds the bait, another holds an extra lasso, others poke eagerly about in holes in the reef looking for prey, while still another tucks the captured eels into his lava-lava. The small girls, burdened with heavy babies or the care of little staggerers who are too small to adventure on the reef, discouraged by the hostility of the small boys and the scorn of the older ones, have little opportunity for learning the more adventurous forms of work and play.</p> <p>4. So while the little boys first undergo the chastening effects of baby-tending and then have many opportunities to learn effective cooperation under the supervision of older boys, the girls' education is less comprehensive. They have a high standard of individual responsibility, but the community provides them with no lessons in cooperation with one another. This is particularly apparent in the activities of young people: the boys organize quickly; the girls waste hours in bickering, innocent of any technique for quick and efficient cooperation.</p> <p>Adapted from: Coming of Age in Samoa, Margaret Mead (1928)</p>	<b>10</b>
<b>5.1</b>	<b>Answer the following questions as briefly as possible.</b>	<b>1X6=6</b>

a.	What is the prime responsibility of a girl child by the time she is six or seven?	
b.	What simple techniques does she learn at this stage?	
c.	What household chores is she responsible for?	
d.	In what way is a boy's life different?	
e.	What qualities ensure that the boys move on to a higher responsibility? Ans- The boys' behaviour is circumvent and helpful.	
f.	Why do girls have little opportunities for learning the more adventurous forms of work and play?	
<b>5.2</b>	<b>Find the words from the passage which are similar in meaning to the following.</b>	<b>1X2=2</b>
a.	Brusquely (para 3)	
	Scorn (para 3)	

Questions for Writing Practice:

S.no	Questions	Marks
1.	You are the Secretary of the English Literary Association of Tagore Memorial School, Patna. Write out a notice for notice-board, inviting names of those who would like to participate in the proposed inter-house debate, oratorio! and elocution contest	4
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4	Your school is holding a summer camp for training students in Hockey and Basketball. Write a notice for the School Notice-Board of Anand Prakash Vuiyalaya, Allahabad. You are the Sports Secretary of the school. (Word limit: 50)	4
5	Your school has decided to celebrate the Golden Jubilee of National Independence by arranging a day-long programme. As the Pupil Leader of Your school, write a notice, giving details for the programme and calling for the participation and cooperation of your school students. (word limit: 50)	4
6	Last week as you were coming back from school you happened to see a huge plastic bag full of leftovers of food being flung into the middle of the road from a speeding car. You wondered how people can be so devoid of civic sense. Write an article in 125-150 words on why we lack civic sense and how civic sense can be inculcated in children at a very young age. You are Shiva/Shamini.	10
7	You are Varshini. This year your school arranged a special cultural programme on the theme 'Service and Sacrifice' in commemoration of the International Year of Volunteers. Write an article about this cultural programme for your school magazine in about 200 words.	10
8	Write an article in 20 words on the following topic to be published in your school magazine. You are Mumtaz/Mohd. Azam of XII Std., Bharathiya Vidya Bhavan, Delhi. Recently you read in the newspaper an incident in which the children tried to imitate the stunts shown on television and embraced death. You have decided to write an article on the hazards of television watching for kids and how the parents could guide them to watch the programmes in an effective way	10
9	Write an article in 200 words on 'The increasing crime rate in today's society and ways to curb it'.	10
10	Write an article in 200 words on 'The Role of Youth in National Development' to be published in your school magazine. You are Mumtaz/Mohd. Azam of XII Std., Bharathiya Vidya Bhavan, Delhi.	10

11	Write a letter to the editor, expressing your opinion and views on the increased human dependence on technology.	6
12	Write a letter to the Principal of your school, requesting her to plan an excursion to Scotland, giving valid reasons, explaining importance and benefit of such trips.	6
13	Write a letter to the manager of Success Ladder institute, enquiring courses available in computer training and process of admission.	6
14	Write a letter to the Municipal Commissioner, complaining against the damaged roads and lack of proper parking space on roads in your society.	6
15	Write a report on the gala event that took place in your school, writing details of all the activities that were conducted with pomp and show!	10
16	While traveling from Delhi to Vrindavan you witnessed a severe accident involving five cars that took place on the highway. Write a report including details of injured, dead and witnesses of the incident	10
	GRAMMAR	
Q-1	<p>The following passage has not been edited. There is an error in each of the lines against which a blank is given. Write the incorrect word and the correction in the space provided. Remember to underline the word that you have supplied.</p> <p style="text-align: center;">INCORRECT</p> <p>CORRECT</p> <p>a) When Gagan has been in space for over an hour, he had  b) Nearly complete a journey right round  c) The Earth and it is time to prepare  d) For the landing. If he come into the  e) Air too quickly, his ship will rub against  f) The air particles and the friction shall make  g) The ship so hot that it would burn up.  h) The speed of the Vostok had to be check gradually.</p>	4
Q2	<p>The following passage has not been edited. There is an error in each of the lines against which a blank is given. With the incorrect word and the correction in the space provided. Remember to underline the word that you have supplied.</p> <p style="text-align: center;">INCORRECT</p> <p>CORRECT</p> <p>a) On a pleasent holiday morning, the residents  of Sunny's and Aditi's neighbourhood meeting at  b) The park. Each family had bring something.  c) To eat. There were a variety of dishes.  d) The picnickers has a delicious treat of food.  e) Food are one of our basic necessities.  f) It is the fuel that gave us energy.  g) People live near the sea coast  h) Eats a lot of fish.</p>	4
Q3)	<p>The following passage has not been edited. There is an error in each of the lines against which a blank is given. With the incorrect word and the correction in the space provided. Remember to underline the word that you have supplied.</p> <p style="text-align: center;">INCORRECT</p> <p>CORRECT</p> <p>a) When we are young, we doesn't  b) Recognize that there was come at a time  c) When our limbs will grows weak, our eyesight Less keen and our body  d) Unable to functioning as smoothly as before.  e) The family owed a responsibility towards  f) Senior citizens. We have not be able to recognize the Concept of looking after the older generations.  g) This is not to suggesting that our  h) Culture does not recognized this phase of life</p>	4
Q4)	In the following passage, one word has been omitted in each line. Write the missing word along with the previous word and the word that follows.	4

	<p>a) A bookshop not something  b) You in every gali or mohalla  c) These days. Books, which once a staple diet for youngsters In their  d) Formative years, fading out of their list of engagements.  e) Ask any youngster which the  f) Latest book he read and  g) He will baffled. A seventeen year  h) Old school-goer says that he just his physics book.</p>							
Q5)	<p>Reordering of Sentences-  Look at the words and phrases below. Rearrange them to form meaningful sentences. Write the correct sentences in the space provided.  a) off full/of three years/degree/duration/the complete/medical/course/ is.  b) course, as well as/ let me/the total fees/please/the duration/know/of the.  c) the Times of India/came across/in/ of 16th July/I/your/advertisement.  d) is extremely/eight years/and/my son/ good looking/is/old.  e) and minority/ and inappropriate/ the whole idea/ in India of majority/ is irrelevant.  f) of what / also look/ Indian nationalism/ one / in terms/ must/ makes.  g) is not/ a majority/ the fact/ of Indians/ is Hindi/ spoken by.  h) UP does not/ of India/ that/ represent/ the majority/ the fact / is.  i) into the lives/ of bringing/ are capable/ of their owners/ exotic pets/ tremendous joy.  k) beautiful to/ fun to play/ often/ they are/ watch and some/ fascinating and/ are loads of/ wish</p>	10						
<b>LITERATURE</b>								
Answer the following questions:								
1	Explain the line " the sea holiday as a past, mine is her laughter , Time spares none"	3						
2	"Both wry with the laboured ease of loss" Describe the ironical situation.	3						
3	How do social interactions kill a child in a child?	3						
4	How did adults 'seem' to the poet when he was a child?	3						
5	Do you think the poet is satirizing the humanity at large in the poem 'Childhood'?	3						
6	'The poem appears to be making a complaint to the world of adults ' comment briefly.	3						
7	What were the narrator's emotions when she stood in the midst of things that once belonged to her?	3						
8	Comment on the significance of the title of the story 'The Address'. OR Justify the title of the short story " <i>The Address</i> ".	3						
9	What hardships do you think the girl underwent during those times?	3						
10	Yuri calls Albert 'the world's worst liar'—do you think this is an insult or a compliment to Albert? Why?	3						
11	Did Einstein succeed in leaving school? How?	3						
12	I knew you were going to leave before you knew yourself. Who said it and how did he know it? Substantiate with example from the text.	3						
13	'He had no premonition that this night call would prove unusual, still less that it would influence his whole future in Blaenelly.' Comment.	3						
14	Bring out the clash between the experienced midwife and the professional doctor.	3						
15	Compare and contrast Andrew's emotional, mental and physical state at the beginning of the story and at the end.	3						
TASK 1 :								
Write down all the difficult words from all the topics along with their meanings and at least two synonyms of each word.								
TASK 2:								
Read any one of the following books and write-								
a. book review								
b. character analysis								
<table border="1"> <thead> <tr> <th>Name of the book</th> <th>Author</th> </tr> </thead> <tbody> <tr> <td>Einstein's Dreams</td> <td>Alan Lightman</td> </tr> <tr> <td>A Tree Grows in Brooklyn</td> <td>Betty Smith</td> </tr> </tbody> </table>		Name of the book	Author	Einstein's Dreams	Alan Lightman	A Tree Grows in Brooklyn	Betty Smith	10+10
Name of the book	Author							
Einstein's Dreams	Alan Lightman							
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	The Shadow Lines	Amitav Ghosh	
	Things Fall Apart	Chinua Achebe	
	A House for Mr Biswas	V.S.Naipaul	

PS : All the exercises must be done in the note book itself except TASK 2

Physics

### CLASS XI PHYSICS HOLIDAY HOMEWORK

1. Prepare a project of physics which should be research or experiment based (working project), where every aspect of the topic selected should be discussed. The project should have the following key aspects:

- Certificate
- Acknowledgement
- Why this was selected? (Related to daily life)
- Introduction
- Details of the project
- Experiment
- Working
- Observations
- Analysis
- Result
- Future scope
- Bibliography (mention the links)

Project should be aesthetically prepared. Print out of the content is not allowed, only data or pictures can be printed and the same has to be approved first.

2. Complete the worksheet given in the notebook.

### WORKSHEET CLASS XI PHYSICS (2019-20)

1. Name the forces having the longest and shortest range of operation.
2. Write important properties of all types of forces.
3. If the units of force and length each are doubled, then how many times the unit of energy would be affected?
4. The density of mercury is  $13.6 \text{ g cm}^{-3}$  in C.G.S system. Find its value in SI units.
5. State the number of significant figures in (i)  $0.007 \text{ m}^2$  (ii)  $2.64 \times 10^{24} \text{ kg}$  (iii)  $0.2370 \text{ g cm}^{-3}$  (iv)  $0.2300 \text{ m}$  (v)  $86400$  (vi)  $86400 \text{ m}$ .
6. The sides of a rectangle are  $(10.5 \pm 0.2) \text{ cm}$  and  $(5.2 \pm 0.1) \text{ cm}$ . Calculate its perimeter with error limits.
7. If displacement of a body  $s = (200 \pm 5) \text{ m}$  and time taken by it  $t = (20 \pm 0.2) \text{ s}$ , then find the percentage error in the calculation of velocity.
8. If the error in measurement of mass of a body be 3% and in the measurement of velocity be 2%. What will be maximum possible error in calculation of kinetic energy.
9. Convert  $3 \text{ m/s}^2$  in to  $\text{km/h}^2$  using dimensional analysis.
10. When the planet Jupiter is at a distance of 824.7 million km from the earth, its angular diameter is measured to be  $35.72''$  of arc. Calculate diameter of Jupiter.
11. The length of a rod measured in an experiment was found to be 2.48m, 2.46, 2.50m and 2.48m and 2.49m, Find the average length, the absolute error in each observation and % error.
12. The escape velocity  $v$  of a body depends on, the acceleration due to gravity 'g' of the planet and the radius R of the planet, Establish dimensionally for relation for the escape velocity.
13. A planet moves around the sun in nearly circular orbit. Its period of revolution depends on radius of orbit, mass of the sun, the gravitational constant. Show dimensionally that  $T^2$  is proportional to  $r^3$ .
14. The nearest star to our solar system is 4.29 light years away. How much is this distance in terms of parsecs? How much parallax would this star (named Alpha Centauri) show when viewed from two locations of the Earth six months apart in its orbit around the Sun?
15. The velocity of a moving particle is given by  $V=6+18t+9t^2$  (x in meter, t in seconds) what is its acceleration at  $t=2\text{s}$ .

16. Draw a velocity-time graph for a body which (i) accelerates uniformly from rest (ii) then moves with uniform velocity and (iii) finally retarded uniformly.
17. Prove that the distance travelled by a body in the  $n^{\text{th}}$  second is  $S_{n^{\text{th}}} = u + a/2 (2n - 1)$
18. Give examples of a one-dimensional motion where  
 the particle moving along positive x-direction comes to rest periodically and moves forward.  
 the particle moving along positive x-direction comes to rest periodically and moves backward.
19. The volume of a liquid flowing out per second of a pipe of length  $l$  and radius  $r$  is written by a

$$v = \frac{\pi P r^4}{8 \eta l}$$

student as where  $P$  is the pressure difference between the two ends of the pipe and  $\eta$  is coefficient of viscosity of the liquid having dimensional formula  $ML^{-1} T^{-1}$ . Check whether the equation is dimensionally correct.

20. In the expression  $P = E l^2 m^{-5} G^{-2}$ ,  $E$ ,  $m$ ,  $l$  and  $G$  denote energy, mass, angular momentum and gravitational constant, respectively. Show that  $P$  is a dimensionless quantity.

**OTE: Begin with reading the chapter Motion in plane in the text book. Complete your assignments and Back exercise questions done it date.**

### Chemistry

- A)** Prepare a crisp report on the following instruments used in the field of chemistry. Also prepare ball and stick models as given. Topics are as follows-

<u>Roll numbers</u>	<u>Topic for project</u>	<u>Ball and stick model</u>
Roll No-1-15	Spectrophotometer and its applications	3 molecules having linear geometry
Roll no-16-25	Electron microscope	3 molecules having trigonal planar geometry
Roll no-26-35	pH meter and its applications	3 molecules having trigonal bipyramidal geometry
Roll no- 36-45	Calorimeter	3 molecules having octahedral geometry
Roll no 46- 56	Chemistry in black and white photography	3 molecules having tetrahedral geometry

The main focus of the project should be on the following aspects-

1. Certificate
2. Acknowledgement
3. Introduction
4. Basic principle involved
5. Set up of the instrument
6. Working
7. Applications
8. Importance (What if this was not available to us?)
9. Bibliography (mention the links)

**No print out of content is allowed, only data or pictures can be printed.**

- B)** Practice 10 numerical each on the following topics-

- a) Molarity
- b) Molality
- c) Significant figures
- d) Limiting reagent
- e) Mole fraction
- f) Percentage composition

**NOTE: Begin with reading the chapter Structure of an atom in the text book. Complete your assignments and Back exercise questions done it date as per the instruction given.**

## Biology

1. Investigatory project in biology – A project based on experimental or case study based is to be prepared. No print outs allowed, must be hand written. Project must be approved first as discussed (through mail). It must have the following details in it.
  - Certificate
  - Acknowledgment
  - Index
  - Abstract
  - Introduction
  - Materials required
  - Procedure
  - Observation
  - Conclusion
  - Reference
2. Make a mind map of Chapter-3 Plant kingdom, Chapter -4 Animal Kingdom, Chapter -5 Morphology of flowering plants.
3. Prepare your own 10 herbarium sheets, sheet should be 29 X 43 cm , information should be provided at the left hand side of the herbarium sheet. Following information to be given in herbarium sheet.
  - Scientific name of plant
  - Taxonomical classification(kingdom to species level)
  - Common English name
  - Local name
  - Collector name
  - Place, Time and date of collection.
4. Attempt the following questions in your notebook :-
  - a. What is the difference between flora fauna and vegetation?
  - b. The number and kinds of organisms are not constant. How do you explain this statement?
  - c. Some of the properties of tissues are not the constituents of its cells. Give three examples to support the statement.
  - d. Botanical gardens are living herbaria .Comment
  - e. What are keys? Where it is used?
  - f. Give one distinct characteristic which separates human beings from other living organism.
  - g. Write 10 scientific name of organisms and there taxonomical classification.
  - h. Name the three international code of biological nomenclature.
  - i. What is the principle underlying the use of cyanobacteria in agricultural field for crop improvement?
  - j. Highlight the criteria used for the five kingdom system of classification.
  - k. Compare the silent feature of Monera and Protista.
  - l. What do you understand by holophytic and holozoic modes of nutrition?
  - m. Give the reason why fungi should not be included in plant kingdom?
  - n. Differentiate between kingdom plantae and kingdom animalia.
  - o. What observable features in trypanosome would make you classify it under kingdom protista?
  - p. What is smut disease? Name the casual agent.
  - q. Draw a well labelled diagram of bacteriophage, nostoc and TMV.
  - r. Differentiate between virus, viroids and prions.
  - s. Differentiate between Ascus and Basidium.

## Mathematics

## HOLIDAY HOME WORK

### ASSIGNMENT I LEVEL: EASY

1. Write the following sets in roster form:
  - a. The counting numbers which are multiples of 6 and less than 50.
  - b. The set of all integers  $x$  for which  $x+6$  is less than 10.
  - c.  $x : x \in \mathbb{Z}$  and  $x^2 < 16$ .
2. If  $S = \{x : x \text{ is a positive multiple of 3 less than } 100\}$  &  $P = \{x : x \text{ is a prime number less than } 20\}$ , then write  $n(S) + n(P)$ .
3. Given  $A = \{x : x \text{ is a letter in the word ACCUMULATOR}\}$ 
  - a. Express  $A$  in roster form.
  - b. Find the cardinal number of the set of vowels in  $A$ .
4. Let  $U$  be the set of all digits in our decimal system,  $A = \{x : x \text{ is an odd integer}\}$ ,  $B = \{x : x \text{ is an even integer}\}$  &  $C = \{x : x \leq 5\}$ , then form the following sets:
  - a.  $A \cup B'$
  - b.  $A - C$
  - c.  $A \cap B \cup C$
  - d.  $A - B \cap C$
  - e.  $A \cap C'$
5. For any sets  $A$  and  $B$ , show that
  - a.  $A \cap (B - A) = A \cap B$
  - b.  $A \cup (B - A) = A \cup B$
  - c.  $A - (B - A) = A - B$
  - d.  $A - (A \cap B) = A - B$
6. If  $x^2 - 3x + y^2 + 4y = -2$ ,  $5$ , then find  $x$  and  $y$ .
7. A real function  $f$  is defined by  $fx = 2x - 5$ . Find the values of:
  - a.  $f(0)$
  - b.  $f(7)$
  - c.  $f(-3)$
8. Find the domain and range of the function  $fx = x^2 - 4$ .
9. Draw the graphs of the function  $fx = 2x - 1$ .
10. Let  $f, g$  be two functions defined by  $fx = x + 1$  &  $gx = 9 - x^2$ , describe the following functions:
  - a.  $f + g$
  - b.  $g - f$
  - c.  $fg$
  - d.  $fg$
11. Convert the following angles:
  - a.  $25^\circ$  into radian measure
  - b.  $-75^\circ 44' 45''$  into radian measure
  - c.  $5\pi^3$  into degree measure
  - d.  $-24\pi^5$  into degree measure
12. If  $\sec x = 135$  and  $x$  lies in the fourth quadrant, find the values of other five trigonometric functions.
13. If  $5\sin x = 3$ , find the value of  $\sec x - \tan x \sec x + \tan x$ .
14. Prove that
  - a.  $\cos 70^\circ \cos 10^\circ + \sin 70^\circ \sin 10^\circ = 12$
  - b.  $\sin 40^\circ + \theta \cos 10^\circ + \theta - \cos 40^\circ + \theta \sin 10^\circ + \theta = 12$
15. Express the following products into sums or differences:
  - a.  $2\sin 5x \cos 3x$
  - b.  $2\cos 5x \sin 3x$
  - c.  $\cos 9x \cos 4x$
  - d.  $3\sin 13x \sin 3x$
16. Express each of the following as a product:
  - a.  $\cos 5x + \cos 3x$
  - b.  $\sin 7x + \sin 4x$

- c.  $\sin 9x - \sin 2x$   
 d.  $\cos 5x - \cos 11x$   
 17. Prove that:  
 a.  $2\sin 5\pi/12 \cos 12 = 2 + 32$   
 b.  $2\sin 45^\circ \sin 15^\circ = 3 - 12$   
 18. If  $\sin x = 3/5$  &  $0 < x < 2$ , find the value of  
 a.  $\sin 2x$   
 b.  $\cos 2x$   
 c.  $\tan 2x$   
 d.  $\sin 4x$   
 19. If  $\tan x = 3/4$  and  $x$  lies in the third quadrant, find the values of  $\sin x$ ,  $\cos x$  &  $\tan x$ .  
 20. If  $\sin x = 1/3$ , find the value of  $\sin 3x$ .

**ASSIGNMENT II**  
**LEVEL: MEDIUM**

21. Write the following sets in roster form:  
 a.  $x : x - 2x + 3 = 3, x \in \mathbb{R}$ .  
 b.  $x : x$  is a two digit number such that the sum of its digits is 9  
 c.  $x : x^4 - 5x^2 + 6 = 0, x \in \mathbb{R}$   
 22. If  $U = \{1, 2, 3, \dots, 12\}$ ,  $A = \{x : 2x + 3 \leq 18\}$  &  $B = \{x : x^2 \leq 40\}$ ; write  $A$  and  $B$  in the roster form.  
 23. If  $L = \{1, 2, 3, 4\}$ ,  $M = \{3, 4, 5, 6\}$  &  $N = \{1, 3, 5\}$ , then verify that  $L - M \cup N = L - M \cap N$ .  
 24. Let  $U = \{x : x \in \mathbb{N} \text{ and } x \leq 10\}$ ,  $A = \{x : x \text{ is prime}\}$  &  $B = \{x : x \text{ is a factor of } 24\}$ , then verify the following results:  
 a.  $A - B = A \cap B'$   
 b.  $A \cup B' = A' \cap B$   
 c.  $A \cap B' = A' \cap B$   
 25. If  $A = \{1, 3, 5, \dots, 17\}$  &  $B = \{2, 4, 6, \dots, 18\}$  &  $N$  the set of natural numbers is the universal set, then show that  $A' \cap B \cup B' = N$ .  
 26. If  $P = \{x : x < 3, x \in \mathbb{N}\}$  &  $Q = \{x : x \leq 2, x \in \mathbb{W}\}$ , find  $P \cup Q$  &  $P \cap Q$ .  
 27. Find domain and range of the relation  $R$  given by  
 $y : y = x + 6x$ , where  $x, y \in \mathbb{N}$  &  $x < 6$ .  
 28. Let  $f$  be a function defined by  $f : x \rightarrow 5x^2 + 2, x \in \mathbb{R}$ . Find:  
 a. Image of 3 under  $f$   
 b.  $f(3) \times f(2)$   
 c.  $x$  such that  $fx = 22$   
 29. Find the domain and range of the functions:  
 a.  $fx = x - 32x + 1$   
 b.  $fx = 11 - x^2$   
 30. Draw the graph of the function  $fx = x^2x$ .  
 31. Solve the following:  
 a.  $3x - 4 = 5$   
 b.  $1 - 2x = -3$   
 32. The large hand of a big clock is 35 cm long. How many cm does its tip move in 9 minutes?  
 33. Find the angle in radians between the hands of a clock at 7.20 P.M.  
 34. If  $\sin x = 1/2$ , find the quadrant in which  $x$  can lie. Also, find the values of remaining trigonometric functions of  $x$ .  
 35. If  $\sec x + \tan x = p$ , obtain the values of  $\sec x$ ,  $\tan x$  &  $\sin x$  in terms of  $p$ .  
 36. If  $\tan 35^\circ = a$ , prove that  $\tan 145^\circ \tan 125^\circ + 1 = \tan 145^\circ \tan 125^\circ$ .  
 37. Prove that:  
 a.  $\cos 20^\circ \cos 40^\circ \cos 80^\circ = 1/8$   
 b.  $\sin 10^\circ \sin 50^\circ \sin 60^\circ \sin 70^\circ = 1/16$   
 38. Prove that  $\sec 8x - 1 = \tan 8x \tan 2x$   
 39. Prove that  $\sin x + \cos x = \tan x$   
 40. Find the value of  $\tan 8$

**ASSIGNMENT II**  
**LEVEL: DIFFICULT**

**HOLIDAY HOME WORK**  
**ASSIGNMENT: DIFFICULT LEVEL**

41. Write the following sets in roster form:
- d.  $x : x + 5x - 7 = 5 = 4x - 4013 - x$
- e.  $x : x$  is a positive factor of the number  $2p-12p-1$ , where  $2p-1$  is a prime number.
- f.  $x : x$  is positive integer less than 10 and  $2x-1$  is an odd integer
42. On the real axis, if  $A = [0, 3]$  &  $B = [2, 6]$ , then find the following:
- $A'$
  - $B'$
  - $A \cup B$
  - $AB$
  - $A - B$
  - $B - A$
43. In class XI of a certain school, there are 20 students in a chemistry class and 30 students in a physics class. Find the number of students which are either in chemistry or in physics class in the following cases:
- The two classes meet at the same hour.
  - The two classes meet at different hours and 10 students study both the subjects.
44. For any sets A, B and C, show that
- $A - A - B = A \cap B$
  - $A - BA - C = A - B \cap C$
  - $A - BC - B = A \cap C - B$
  - $A - B - C = A - BA \cap C$
45. Given  $A = \{1, 2, 3, 4, 5\}$  &  $R = \{(x, y) : x \in A, y \in A\}$ . Find the set of ordered pairs which satisfy the conditions given below:
- $x + y = 5$
  - $x + y < 5$
  - $x + y > 8$
46. If  $R_1 = \{(x, y) : y = 2x + 7, x \in \mathbb{R} \text{ and } -5 \leq x \leq 5\}$ , then find the range & domain of  $R_1$ .
47. Find the domain of the function  $f(x) = a^2 - x^2$ ,  $a > 0$ .
48. Find the domain and range of the functions:
- $f(x) = x - 1$
  - $f(x) = 15 - x$
49. Draw the graph of the real function  $f(x) = \begin{cases} x + 1, & -1 \leq x < 1 \\ 3 - x, & 1 \leq x < 3 \\ 6 - 2x, & 3 \leq x < 4 \end{cases}$
50. If  $x$  &  $\{x\}$  represent integral and fractional parts of  $x$ ,  $x \in \mathbb{R}$ , then find the value of  $x + r = 1100x + r100$
51. Let  $f, g$  be two functions defined by  $f(x) = x + 1$  &  $g(x) = 9 - x^2$ , describe the following functions:
- $f + g$
  - $g - f$
  - $fg$
  - $fg$
52. A sector of a circle of radius  $r$  metres is bounded by an arc  $AB$  and by two radii  $OA$  and  $OB$ , at an angle  $\beta$  radians. Given that the perimeter of the sector is 18 m and that the area of the sector is  $8 \text{ m}^2$ , calculate the numerical values of  $r$  &  $\beta$ .
53. If  $\cos x = -\frac{2}{3}$  and  $\pi < x < 3\pi/2$ , find the value of  $4 \tan^2 x - 5 \operatorname{cosec}^2 x$ .
54. If  $\cos x + \sin x = 2 \cos x$ , show that  $\cos x - \sin x = 2 \sin x$ .
55. Is the equation  $2 \sin^2 x - \cos x + 4 = 0$  possible?
56. If  $A, B, C$  are angles of triangle, then prove that  $\cos A + \cos B + \cos C = 0$ .
57. If  $\cos \alpha + \beta = \frac{4}{5}$  &  $\sin \alpha - \beta = \frac{5}{13}$ , where  $\alpha, \beta$  lie between 0 &  $\frac{\pi}{4}$ . Then find the value of  $\tan 2\alpha$ .
58. If  $\tan x = \frac{a}{b}$ , then find the value of  $a + \frac{a}{b} - b + \frac{a}{b} - b + \frac{a}{b}$
59. If  $\cos x = \cos \alpha$ , prove that  $\tan x + \alpha^2 \tan x - \alpha^2 = \tan^2 \alpha$
60. Prove that  $\cos A \cos 2A \cos 4A \dots \cos 2^{n-1}A = \frac{\sin 2^n A}{2^n \sin A}$

**Psychology**

- Assignment to be done in Psychology notebook
- All the assignment answers to be attempted neatly

**I. LEARNING CHECKS ( 1 MARK)**

Q1 ..... is concerned with the attempt to understand human behavior from biological perspective.

Q2 The work of counseling psychologist is quite similar to the work of clinical psychologist

- a. True
- b. False

Q3 Define Cognition

Q4 Who is credited with establishment of first psychological laboratory and when?

Q5 Mind is the other name of brain

- a. True
- b. False

Q6 ..... model suggests that scientific advancement can take place if you have a theory to explain a phenomenon.

Q 7 In conducting the survey the investigator selects a few subjects called a ..... and then makes the decision regarding the more general significance of his findings

- a. Sample
- b. Data

Q8 Define Hypothesis

Q9 What is Reliability?

Q10 In ..... I.P. Pavlov was awarded the Nobel Prize for his investigation of glandular and neural factors in digestion.

**II VERY SHORT ANSWER TYPE QUESTION ( 2MARKS)**

Q 11 What are the characteristics of scientific research?

Q 12 What is experimental method?

Q 13 What is meant by Quasi experiment?

**III SHORT ANSWER TYPE QUESTION (3 MARKS)**

Q14 Differentiate between basic and applied psychology

Q 15 What is Correlation method?

Q 16 What is Quasi Experiment?

**IV SHORT ANSWER TYPE (4 MARKS)**

Q 16 Discuss the subject matter and application of psychology in everyday life

Q 17 What is variable? Discuss different types of Variable

Q 18 What is data? What are the factors affecting data collection?

**V LONG ANSWER TYPE ( 6 MARKS)**

Q 19 Discuss Various aspects of ethical principles.

Q 20 What are the basic concerns of modern psychology?

**PROJECT:**

1. Conduct a survey of the after school activities of class V and class IX students taking a sample of 10 students each. Find information about the time devoted by them in various activities, such as studying, playing, television viewing, hobbies etc. Do you find any difference? What conclusion do you draw and what suggestions would you offer?
2. Collect information on any ONE of the following topics and write a report on it. (Approximately 150 words)
  - Is ADHD (Attention Deficit Hyperactivity Disorder) all in genes?
  - Caught in the net! Internet Addiction how good/ bad is it?
  - Which is more important and why?- an EQ V/S IQ debate

## Economics

### PROJECT WORK

**(A) From the following topics choose one for your research and project work.**

- 1) CBSE result for Class X
- 2) Cbse Result for Class XII
- 3) Polling Result of 2019
- 4) Civic Awareness
- 5) Food Habits

**(B) Objectives to be covered in the project work area**

- 1) Make a questionnaire (10 questions)
- 2) Get the questionnaire filled by 20 informants around you. (Primary Data)
- 3) Collect Secondary data relating to the prepared list of questions.
- 4) Organise the data
- 5) Present the data (using graph or pie chart)
- 6) Analysis and interpretation of your survey.