

**KERALA PUBLIC SCHOOLS**  
**HOME ASSIGNMENT (01<sup>st</sup> To 4<sup>th</sup> July 2020)**



CLASS	SUBJECT	TOPIC / CHAPTER	MODULE / ASSIGNMENT	REFERENCE LINKS
XII	BIOLOGY	Evolution 1 <sup>st</sup> -17 <sup>th</sup> July	<ol style="list-style-type: none"> <li>1. Explain Oparine –Haldane Theory</li> <li>2. Explain Urey – Miller’s Experiment.</li> <li>3. Define – Protobionts , Coacervates, Vestigial Organs</li> <li>4. Differentiate between Homologous and Analogous Organs</li> <li>5. Explain what is meant by embryological evidence.</li> <li>6. Explain what is meant by molecular evidences in evolution.</li> <li>7. Explain Larmarckism.</li> <li>8. Explain Darwinism.</li> <li>9. Explain Lederberg ‘s replica plating technique.</li> <li>10. What is Hardy Weinberg’s Principle?</li> <li>11 Explain the three types of Natural Selection.</li> <li>12 Explain the characteristics of Neanderthal man .</li> <li>13. Explain gene flow.</li> <li>14 Define genetic drift.</li> <li>15 What is Founder’s effect and Bottle neck effect.</li> </ol>	<p><b>Balaji Publication</b>  <b>ISC Biology</b></p> <p><a href="https://youtu.be/hj3Rhf2vIZg">https://youtu.be/hj3Rhf2vIZg</a></p> <p><a href="https://youtu.be/AxHnrBJsHtQ">https://youtu.be/AxHnrBJsHtQ</a></p>
	HINDI LANG	एक फूल की चाह, उद्यमी नर	<p><b>एक फूल की चाह:-</b></p> <ol style="list-style-type: none"> <li>1. बीमार बेटी ने क्या इच्छा प्रकट की और क्यों?</li> <li>2. सुखिया का पिता अपनी बेटी की इच्छा क्यों नहीं पूरी कर सका?</li> <li>3. सुखिया के पिता पर क्या आरोप लगाया गया और क्यों?</li> </ol>	

		<p>4. कवि ने समाज की किस बुराई को कविता के माध्यम से उजागर किया है?</p> <p>5. इस कविता से आपको क्या प्रेरणा मिलती है?</p> <p>6. मंदिर के सौंदर्य का वर्णन अपने शब्दों में करें।</p> <p><b>उद्यमी - नर:-</b></p> <p>1. "उद्यमी नर" कविता का केन्द्रीय भाव लिखें।</p> <p>2. संसार के उद्यमी नर ही सुख पाते हैं, कैसे?</p> <p>3. "जिसने श्रम जल दिया उसे पीछे मत रहने दो।" स्पष्ट करें</p> <p>4. प्रकृति को कौन हरा सकता है और कैसे?</p> <p>5. उद्यमी नर कविता के माध्यम से नर को क्या संदेश दिया गया है?</p> <p>6. यह कविता प्रगतिवादी भावना से ओत - प्रोत है, स्पष्ट करें।</p>	
COMPUTER SCIENCE	<p>1-07-2020</p> <p><b>Ch : Proposition Logic &amp; Boolean Algebra</b></p>	<p><b>*The assignments given below have to be done in the Computer Science notebook.</b></p> <p>1. Draw the truth table to prove the propositional logic expression.  <math>(X \Rightarrow Y) \wedge (Y \Rightarrow X) = X \Leftrightarrow Y</math></p> <p>2. Prove the following relation: [ISC 2018]  <math>(P \wedge Q) \vee (P \wedge \sim Q) = P</math></p> <p>3. State the following expression is a Tautology, Contradiction or the Contingency with the help of truth table. [ISC 2016]  <math>(X \Rightarrow Z) \vee \sim(X \Rightarrow Y) \wedge (Y \Rightarrow Z)</math></p> <p>4. Using the truth table, state whether the following proposition is a <i>tautology</i>,  <math>(A \wedge B) \vee (A \Rightarrow B)</math></p> <p>5. The statements are given as:      If P: Jitendra Kumar is a computer teacher.      Q: Rahul is a student.      Write these statements in symbolic form:      (a) Jitendra Kumar is a computer teacher and Rahul is a student.      (b) Jitendra Kumar is a computer teacher and Rahul is not a student.      (c) Jitendra Kumar is not a computer teacher and Rahul is a student.      (d) Neither Jitendra Kumar is a computer teacher nor Rahul is a student.      (e) Either Jitendra Kumar is a computer teacher or Rahul is a student.</p> <p>6. State the <i>Commutative law</i> and prove it with the help of a truth table.</p>	<p>Ch: Propositional Logic &amp; Boolean Algebra</p> <p>Topic: Propositional Logic  <a href="https://www.youtube.com/watch?v=Y4KtBizkUn4&amp;list=PLGRpMr9gXDdKpoy6dgve3n2q_xcKxvLn">https://www.youtube.com/watch?v=Y4KtBizkUn4&amp;list=PLGRpMr9gXDdKpoy6dgve3n2q_xcKxvLn</a></p> <p>Topic: Logic Gates and Boolean Algebra  <a href="https://www.youtube.com/watch?v=zfMxkjOtCws">https://www.youtube.com/watch?v=zfMxkjOtCws</a></p>

**Ch: Computer Hardware (Logic Gates and their application)**

7. State the two Idempotence law of Boolean algebra. Verify any of them in using truth table. [2]
8. Find the dual of:  
 $(A' + B) \cdot (1 + B') = A' + B$
9. Find the maxterm and minterm when  $P = 0, Q = 1, R = 1$  and  $S = 0$  [2]
10. Convert the following Boolean expression into its canonical  $F(A, B, C) = (B + C') \cdot (A' + B)$  [3]
11. Verify the following expression using Boolean laws. Also mention the law used at each step of simplification.  
 $X \cdot Y \cdot Z + X \cdot Y' \cdot Z + X \cdot Y \cdot Z' = X(Y + Z)$
12. Given the Boolean function  $F(A, B, C, D) = \sum(0, 2, 3, 6, 8, 10, 11, 14, 15)$ 
  - (i) Reduce the above expression by using 4-variable Karnaugh map, showing the various groups (i.e. octal, quads and pairs).
  - (ii) Draw the logic gate diagram for the reduced expression. Assume that the variables and their complements are available as inputs.
13. Given the Boolean function  $F(P, Q, R, S) = \pi(5, 7, 8, 10, 12, 14, 15)$ 
  - (i) Reduce the above expression by using 4-variable Karnaugh map, showing the various groups (i.e. octal, quads and pairs).
  - (ii) Draw the logic gate diagram for the reduced expression. Assume that the variables and their complements are available as inputs.
14. Simplify the following Boolean expression and draw the gate for the reduced expression:  
 $F = A'B + AB'C + A$
15. Define *Universal gates*. Give one example and show how it works as an OR gate.
16. Draw the truth table and logic gate diagram for an octal to binary encoder.
17. What is a multiplexer? Also draw the logic diagram of a 4:1 multiplexer.
18. Draw the circuit diagram for 3 to 8 decoder.
19. A school intends to select candidate for an Inter-School Essay Competition as per the criteria given below: [4]
  - ❖ The student has participated in an earlier competition and is very creative.  
Or
  - ❖ The student is very creative and has excellent general awareness, but has not participated in any competition earlier.  
Or
  - ❖ The student has excellent general awareness and has won prize in an enter-house competition.

Ch: Computer Hardware

Topic: Combinational Circuits  
<https://www.youtube.com/watch?v=yHo2qq82P0>

Topic : Multiplexer  
<https://www.youtube.com/watch?v=FKvnmxte98A>

Topic : Encoder & Decoder

<https://www.youtube.com/watch?v=feBvhLFQEDk>

		<p>The inputs are:  <b>INPUTS</b>  A participate in a competition earlier  B is very creative  C won prize in an inter-house competition  D has excellent general awareness  (in all the above cases 1 indicates yes and 0 indicates no).  <b>Output:</b> X [1 indicates yes, 0 indicates no for all cases]  Draw the truth table for the inputs and outputs given above and write the <b>POS</b> expression for X(A, B,C,D).  20. Differentiate between <i>Half Adder</i> and <i>Full Adder</i>. Draw the logic circuit diagram for a Full Adder.</p>	
POL SCIENCE	<b>Ch - 2 : Unitary &amp; Federal States</b>  <b>01.07.20</b> <b>To</b> <b>10.07.20</b>	<b>Read the chap thoroughly</b>  <u><b>Answer the questions according to the syllabus.</b></u> <b>I.</b> Answer all the questions – Short and Long questions in your notebook. <b>NOTE:</b> Write all the new words you have come across while answering the questions.	<a href="http://en.wikipedia.org">en.wikipedia.org</a>
	<b>Ch – 3 : Parliamentary &amp; Presidential forms of Government</b>  <b>13.07.20</b> <b>To</b> <b>22.07.20</b>	<b>Answer the questions according to the syllabus.</b>  <b>I.</b> Answer all the questions – Short and Long questions in your notebook. <b>NOTE:</b> Write all the new words you have come across while answering the questions Read the chapter thoroughly  VIDEOS WILL BE SEND AS SCHEDULE	<a href="http://www.youtube.com">www.youtube.com</a>

	<b>Ch – 10 : Fundamental Rights</b>  <b>24.07.20 to 31.07.20</b>	<b>Answer the questions according to the syllabus.</b>  <b>I.</b> Answer all the questions – Short and Long questions in your notebook. <b>NOTE:</b> Write all the new words you have come across while answering the questions  Read the chapter thoroughly  VIDEOS WILL BE SEND AS SCHEDULE	<a href="https://www.magnet.brains.com">https://www.magnet.brains.com</a>
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**DIRECTOR ACADEMICS**