YEAR 9 A - F – BIOLOGY

WEEK 32 (25th April to 29th April)

Work sent to students through Class Bio WhatsApp Group/G mail/Google Classroom

Topics: SB 8b & 8e-Factors affecting diffusion & Cellular respiration respectively.

L.O.: Recall the factors affecting the rate of diffusion in relation to Fick's Law. Describe cellular respiration as an exothermic to release energy, including aerobic and anaerobic respiration and Compare the process of aerobic respiration with the process of anaerobic respiration.

Sunday-Zero period(boys) **Sunday-7th period(girls)**	**Zoom: Describe the factors affecting the rate of diffusion in relation to Fick's Law.** https://www.youtube.com/watch?v=lxHMJaXOzP4 https://www.youtube.com/watch?v=QW9GpeeKhT8&t=2s Textbook page : 164-165 **Resources**: Textbook, Video Links & Power point. ●**Calculate** rates of diffusion using Fick's law. ●**Describe** the effect of a high concentration gradient on the rate of diffusion. ●**Explain** how surface area affects the rate of diffusion.
Sunday -1st period(boys) **Wednesday-2nd (girls)**	**Zoom: Describe** cellular respiration and Compare the process of aerobic respiration with the process of anaerobic respiration. https://www.youtube.com/watch?v=ZKAaDbTP6Dc https://www.youtube.com/watch?v=U4WwWuVZSe4 Textbook page : 170-171 **Resources**: Textbook, Video Links & Power point. ●**Identify** the reactants & products for anaerobic respiration. ●**Write** the word & chemical equation for the two types of cellular respiration. ●**Compare** anaerobic respiration with aerobic respiration. ● **Explain** the significance of Oxygen debt & **EPOC** during anaerobic respiration in muscle cells.
Sunday-2nd period(boys) **Wednesday -3rd period(girls)**	**GC:** Students write answers to textbook qns on Cellular Respiration on Pgs 170-171 and turn in their work on GC.

YEAR 10 A-F – BIOLOGY

WEEK 32 (25th April to 29th April)

Work sent to students through Class Bio Whats App Group/G mail/Google Classroom

SB-8a-Efficient transport and exchange

L.O- Describe the need to transport substances into and out of a range of organisms and the need for exchange surfaces and a transport system in multicellular organisms including the calculation of surface area : volume ratio

Sunday – 3rd Period (Boys) **Sunday – 5th Period (Girls)**	**ZOOM SESSION/GOOGLE MEET** **Students must watch the video link given below on** **https://www.youtube.com/watch?v=DHGWH3NdAjc** **https://www.youtube.com/watch?v=mZvzl8KH6iI** Read Text book Page- 162-163 and Complete question Page 162- 1-5 **Resources:** PowerPoint /Board work &Video link **Students able to:-** ●Recall the names of substances that need to be transported into and out of the body.●Describe the functions of the substances that are transported into the body.●Calculate surface area : volume ratios.●Explain the importance of surface area : volume ratios in transport systems ●Define gaseous exchange .●Explain **few** adaptive features of the alveoli to favour gaseous exchange**.** ●Describe the adaptations of the lungs for gas exchange.●Calculate surface area : volume ratios

SB-5d-Pathogens

L.O- Describe a pathogen as a disease-causing organism, including viruses, bacteria, fungi and protists

Monday-4th period (Boys) **Tuesday -1st Period (Girls)**	**ZOOM SESSION/GOOGLE MEET** **Students must watch the video link given below on** **https://www.youtube.com/watch?v=wUm71FPuVCQ** **https://www.youtube.com/watch?v=dbd5iydu3EY** Read Text book Page- 102-103 Complete question Page 103-S1,E1&Exam Style question **Resources:** PowerPoint /Board work &Video link

	Students able to:- ●Define term pathogens, ●vectors & give examples of various pathogens. ●Name diseases which involve viruses, bacteria, fungi and protists.. ●Identify signs and symptoms of various diseases caused by pathogens. ●Explain different diseases, pathogens involved and mode of transmission. a. cholera (bacteria) – water b. tuberculosis (bacteria) – airborne c .Chalara ash dieback (fungi) – airborne d. malaria (protists) – animal vectors e. stomach ulcers caused by Helicobacter (bacteria) – oral transmission f. Ebola (virus) – body fluids

SB5d-Pathogens & SB5i –Sexually transmitted infections

L.O- Describe some common infections including STIs(Sexually transmitted diseases)

Thursday- **1st Period(Boys)** **Wednesday-4th period (Girls)**	**ZOOM SESSION/GOOGLE MEET** **Students must watch the video link given below on** https://www.youtube.com/watch?v=K5zFxfbmC1M https://www.youtube.com/watch?v=d6vAN0tvZnY Read Text book Page- 102-103,113 Complete question Page 102- question1-3& 6 Page 113- question 6 and E1 **Resources:** PowerPoint /Board work &Video link **Students able to:-** ●What is STI? ●Describe mode of transmission for certain diseases especially HIV and Chlamydia. ●Suggest methods of prevention of STI. Identify signs & symptoms of STI . ●**Explain** how screening for an STI can help to reduce spread of the infection ●**Evaluate** the various preventive measures to reduce infections likea. STIs (HIV or Chlamydia) **b.** cholera (bacteria) – water **c** . Chalara ash dieback (fungi) – airborne **d.** stomach ulcers caused by Helicobacter (bacteria) – oral transmission **e.** Ebola (virus) – body fluids..
Thursday- **2nd Period (Boys)** **Tuesday -** **2nd Period (Girls)**	**GOOGLE CLASSROOM** **Students to complete the worksheet SB 8a.2 and Worksheet SB8b.3 and turn in the work in GC**

YEAR 11 A-F BIOLOGY (GCSE)

WEEK 32 (25th April – 29th April)

SB5d-Pathogens, SB5c – Cardiovascular diseases, SB5j- The immune system & SB3cii – DNA extraction

Work sent to students through Class Bio Whats App Group/G mail/Google Classroom

L.O: Describe the diseases caused by microorganisms living in the gut. Explain how immune system produces different antibodies and how they attach to antigens. Analyse how the risk of cardiovascular disease is affected by the amount of visceral fat & amount of subcutaneous fat. Research on the steps of DNA finger printing and its advantages.

Sunday- 6th period(girls) & 8th period(boys)	**GC.-Completion of work 1** **Life in the human gut**
Monday - 3rd period(girls)& Tuesday -5th period (boys)	**GC- Completion of work 2-Immune system** Immune response challenges
Tuesday- 7th period& 8thperiod(girls) & Thursday-5th&6th period(boys)	**Asynchronous lesson-DNA finger printing** Research on steps of DNA finger printing and its applications.
Wednesday - 6th period (boys) &7th period (girls)	**GC -Completion of work 3-Cardiovascular disease** Reducing the risk

YEAR 11 G & H – BIOLOGY (IGCSE)

WEEK 32 (25th April to 29th April)

Work sent to students through Class Bio WhatsApp Group/G mail/Google Classroom

BIOTECHNOLOGY : Unit 6: Using Microorganisms & Genetic Modification

L.O.: To understand the role of microorganisms in food production. To evaluate the role of GM plants in vaccine production.

Sunday- 4th period	**GC: Describe** the role of yeast in bread and alcohol production. https://www.youtube.com/watch?v=cYkqY1uwDf8 https://www.youtube.com/watch?v=attjGTuC09U **Resources**: Video Links & textbook. Students go through the textbook and link and create a flowcharts to describe the stages of bread & alcohol production using yeast
Monday- 7th period	**GC : Describe** the role of bacteria in yoghurt production. https://www.youtube.com/watch?v=hYlNIuiTm4k **Resources**: Video Links & textbook. Students go through the textbook and link and answer question 5 on Pg 288.
Tuesday – 3rd and 4th period	**Async GC: Research** about the use of GM plants in production of oral vaccines and prepare an article of a popular newspaper on its potential use. https://www.youtube.com/watch?v=DgDDw2gQJx0 https://www.youtube.com/watch?v=EANnlEWhoaU **Resources**: Video Links & Web. Students able to: **Describe** the process of using GM plants in vaccine production **Evaluate** the use of GM plants in vaccine production
Wednesday – 5th period	**GC : Describe** the construction of an industrial fermenter. https://www.youtube.com/watch?v=Ii-RkMwFSlQ **Resources**: Video Links & textbook. Students go through the textbook and link and answer question 4 on Pg 287.

YEAR 12 - Batch 1 - BIOLOGY

WEEK 32 (25th April to 29th April)

Work sent to students through Class Bio Whats App Group /Google Classroom

Topic 3.3 .1 & 3.3 .2 - Biodiversity & Topic 8 .2.1- Gene pool

L.O –The importance of biodiversity, Assessing and measuring biodiversity. To recognize that biodiversity can be assessed within a species at the genetic level by looking at the variety of alleles in the gene pool of the population using Hardy –Weinberg equation & heterozygosity index. Significance of genetic drift, Population bottle neck effect & Founder effect

Biology Students Book 1 & 2

B1- Tuesday– 4th period (Zoom)	**Students able to** ●**Define** the key terms Species richness, Species eveness , Endemism &Biodiversity hotspots ● **Differentiate** Species richness & Species eveness● **Significance** of Endemism & Biodiversity hotspot related to biodiversity● **Identify** sampling techniques used for calculating species diversity index & Lincoln index ●**Explain** sampling techniques used for calculating species diversity index & Lincoln index ●**Calculate** species diversity index & Lincoln index in estimating biodiversity **Resources:** Boardworks & PowerPoint - Biodiversity & sampling techniques & Video link https://www.youtube.com/watch?v=iWLvz4UmY6Y https://www.youtube.com/watch?v=JePixuWr2n0 https://www.youtube.com/watch?v=R80LsxKV9uc&t=499s https://www.youtube.com/watch?v=Diq4A7QGknM **Students to complete text book 1 questions – Page 198** **Students to complete text book 1 questions – Page 201**
B1- Thursday– 1st &2nd period (Zoom)	**Students able to** ●**Define** key terms gene pool, genetic drift, Population bottle neck effect & Founder effect ● **Describe** how Population bottle neck effect & Founder effect affect genetic diversity ●**Explain** use of Hardy –Weinberg equation in calculating genetic diversity. ●**Calculate allele frequency** using Hardy –Weinberg equation & heterozygosity index in estimating biodiversity at genetic level . **Resources:** Boardworks & PowerPoint - Evolution & Video link https://www.youtube.com/watch?v=KmqgZvUoq3k https://www.youtube.com/watch?v=XNN-ag_28pk https://www.youtube.com/watch?v=wWylCPXPLMU https://www.youtube.com/watch?v=u9EVOzVJeZc

	https://www.youtube.com/watch?v=eml_j_aNAcM **Students to complete book 2 text book questions - Page 165** **Students to complete book 2 text book questions - Page 167**

YEAR 12 - Batch 2 - BIOLOGY

WEEK 32 (25th April to 29th April)

Work sent to students through Class Bio Whats App Group /Google Classroom

Topic 3 -3.2- Biodiversity & Topic 8 .2.1- Gene pool

L.O –To recognize that biodiversity can be assessed within a species at the genetic level by looking at the variety of alleles in the gene pool of the population using Hardy –Weinberg equation & heterozygosity index. Significance of genetic drift, Population bottle neck effect & Founder effect

Biology Students Book 1 & 2

B2- Monday – 5th &8th period(Zoom)	**Students able to** ●**Define** key terms gene pool, genetic drift, Population bottle neck effect & Founder effect ● **Differentiate** Population bottle neck effect & Founder effect with examples ● **Describe** how Population bottle neck effect & Founder effect affect genetic diversity **Resources:** Boardworks & PowerPoint - Evolution & Video link https://www.youtube.com/watch?v=KmqgZvUoq3k https://www.youtube.com/watch?v=XNN-ag_28pk https://www.youtube.com/watch?v=wWylCPXPLMU **Students to complete text book questions – Page 198** **Students to complete text book questions – Page 201**
B2- Wednesday– 5th period (Zoom)	**Students able to** ●**Identify** techniques used for calculating genetic diversity ●**Explain** use of Hardy –Weinberg equation in calculating genetic diversity. ●**Calculate allele frequency** using Hardy –Weinberg equation & heterozygosity index in estimating biodiversity at genetic level . **Resources:** Boardworks & PowerPoint - Evolution & Video link https://www.youtube.com/watch?v=u9EVOzVJeZc https://www.youtube.com/watch?v=eml_j_aNAcM **Students to complete book 2 text book questions - Page 165** **Students to complete book 2 text book questions - Page 167**

YEAR 12 - B1 and B2- BIOLOGY

WEEK 32 (25th April to 29th April)

Work sent through Google classroom/Gmail/Online Quiz/ZOOM Learning Platform

Topic - 4.4-Transport in Plants

L.O – Explain **t**he strengths and weaknesses of the mass flow hypothesis in explaining the movement of sugars through phloem tissue

Biology Students Book 1

B1- Sunday – 8th period[GC] **B2- Tuesday – 3rd period [GC]**	**GC-Asynchronous learning** **Exam style questions-. Answer the questions given on page 274&275** and task to be turned in Google classroom **Text Book Page Numbers – 274&275**
B1 - Monday – 1st & 2nd period (Zoom) **B2- Thursday – 5th and 6th period(Zoom)**	**Students able to** ●Define mass flow hypothesis. ●Interpret the evidence for transport through xylem using dyes & phloem using aphids and radioactively labelled carbon. ●**Differentiate** between transpiration, translocation and guttation in plant ●Differentiate passive mass flow and pressure flow hypothesis **BOARD WORKS –Transport in plants No[-15 -20]** **Video and PPT:** Translocation in plants **:**www.science.co.uk/biology/translocation..html, www.internet4classrooms.com **Read Turgeon, R. The Puzzle of Phloem Pressure. *Plant Physiology* 2010 vol. 154 no. 2, pages 578–581 (available online).** Distil the *Wikipedia*® entry on the pressure flow hypothesis to 10 bullet points. ● Read Knoblauch, M. & Oparka, K. The structure of the phloem – still more questions than answers. *Plant Journal*. Volume 70, Issue 1, pages 147–156, April 2012 (available online). Add to your notes on the weaknesses of the pressure flow hypothesis.. **Text Book Page Numbers – 287-289**