YEAR 9 A - F – BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

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

Topic 2a:Mitosis.

L.O.: Recall the stages of mitosis, asexual reproduction and its role in development of cancer.

Topic SB2c-Growth in plants

L.O –Describe growth in organisms, including cell division, elongation and differentiation in plants.

Sunday-Zero period(boys) **Sunday-7th period(girls)**	**Zoom session**: To review stages of mitosis, compare methods of asexual reproduction in organisms & role of mitosis in cancer **Discussion of textbook questions, page 30 & 31.**
Sunday -1st period(boys) **Wednesday-2nd period (girls)**	**Zoom Session**: SB2c-Growth in plants. **Resources**: Board works & Video link https://www.youtube.com/watch?v=11QOg4dLa3U https://www.youtube.com/watch?v=yVd9Z3av1Ew **Students able to** ●Explain how do plants grow ●Describe how cell division, elongation & differentiation contribute to the growth and development of plant cell ●Explain how some specialized plant cells adapted to their function.
Sunday-2nd period(boys) **Wednesday -3rd period(girls)**	**GC** Students to complete the work sheet SB2a.3& turn in their work in GC.

YEAR 10 A-F – BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

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

SB1f-Food Tests - Core Practical 3

L.O - Discussion on starch, protein, lipid & reducing sugars

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=akMLGbNA0gE https://www.youtube.com/watch?v=13H1urX3gxI Read Text book Page-14-15 Read Page 16 and complete pg 17 Instructions related to food Tests will be discussed by teacher. Discussion on Text book Page -17 **Resources:** Video link **Students able to:-** ●Identify starch, reducing sugars, proteins and fats in food substances. ●Describe method used to test the presence of starch, reducing sugars, proteins and fats in food substances.

SB4e-Breeds & Varieties

L.O- Recall Selective Breeding &Genetic Engineering

Monday-4th period (Boys) **Wednesday-4th period (Girls)**	**GOOGLE CLASSROOM** Students to complete the text book questions pg 84-85 and88-89 and turn in their work. Text book Page 90-91 could be done as a HW.

SB1f-Food Tests

L.O- Core practical Investigate the use of chemical reagents to identify starch, reducing sugars, proteins and fats

Tuesday – 1 st & 2nd Period (Girls) **Thursday-1st & 2nd Period (Boys)**	**ZOOM SESSION/GOOGLE MEET** **Students watch the r**ecorded video shown by teacher **Resources:** Video – Food tests

	Students able to:- ●Outline a method to determine starch, reducing sugars, proteins and fats in food substances. ●Identify the reagents used to test the presence of starch, reducing sugars, proteins and fats in food substances & risks and hazards. ●Draw conclusions to food tests being carried out**.** ●Interpret the results obtained**.** **Students to complete the Core Practical sheet and to turn in their work in GC within the assigned period.**

YEAR 11 G& H – BIOLOGY (IGCSE)

WEEK 25 (14th Feb to 18th Feb)

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

Topics 22 & 14: Genetic Modification & Ecosystem.

L.O.: Describe how genetically modified plants and animals can be used to improve food production. Understand the terms interdependance, biodiversity and ecosystem and how abiotic and describe how biotic factors affect the population size and distribution of organisms

Sunday- 4th period	**Zoom: Describe** how genetically modified plants can be used to improve food production. https://www.youtube.com/watch?v=pQQpzIlba3Y Textbook page : 289-300 **Resources**: Textbook, Video Links & Power point. **Students able to:●Describe** how gene coding for herbicide resistance can be inserted into plants *using Agrobacterium.* ●**Explain** how crop plants can be modified to make them resistant to insect pests.●**Compare** the costs & benefits in production of GM crop plants.
Monday- 7th period	**Zoom: Describe** how cloned transgenic animals can be used to produce human proteins. https://www.youtube.com/watch?v=gu9T91GJXDo https://www.youtube.com/watch?v=CfTnVx31pr0 Textbook page : 289-300 **Resources**: Textbook, Video Links & Power point.

	Students able to:●List some proteins that can be produced using transgenic animals. ●**Describe** how cloned transgenic animals can be used to produce human proteins ●**Evaluate** the benefits and risks associated with transgenic cloned animals and ethical implications.
Tuesday – 3rd and 4th period	**Zoom: Understand** the terms population, community, habitat, interdependance, biodiversity and ecosystem and how abiotic and how biotic factors affect the population size and distribution of organisms https://www.youtube.com/watch?v=dvfQqL1VVTI https://www.youtube.com/watch?v=SMmZ3I9axeM Textbook page : 187-203 **Resources**: Textbook, Video Links & Power point. **Students able to:●Define** ecosystem. ●**Explain** the importance of interdependence in communities ●**Explain** the importance of biodiversity .●**Predict & describe** few factors affecting distribution of organisms – availability of air, water ,light & temperature.
Wednesday – 5th period	**GC:** Students complete textbook questions on Ecosystem and turn in their work on GC **Resources**: Textbook

YEAR 11 A, D & E BIOLOGY (GCSE)

WEEK 25 (14th Feb to 18th Feb)

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

Topics - SB9a- Ecosystem , SB9b-Energy Transfer & SB9C-Abiotic Factors & communities.

L.O – Discuss components of ecosystem &energy transfer in an ecosystem through food chain/food web. Explain energy efficiency within ecosystem . Compare ecological pyramids. Role of abiotic factors and interdependence in organisms within ecosystem .

Sunday-6 th period (girls)	**Zoom session-SB9a- Ecosystem** **Resources** : Board works & Video link **https://www.youtube.com/watch?v=BKB6-NbaPTE** https://www.youtube.com/watch?v=IIadTIIWSKI **Students able to** ●Define a community of organisms ●Explain how are ecosystems structured● Describe why is interdependence important in communities. **Discussion of textbook questions pg.176 &177**
Monday -3 rd period (girls)	**Zoom session-SB9b-Energy Transfer** **Resources** : Board works & Video link https://www.youtube.com/watch?v=gS8XyJQJBZs https://www.youtube.com/watch?v=sgh1OWm0oTQ **Students able to** ●Define trophic level●Predict **few** ways by which energy is lost from a food chain●Explain why does keeping chicken indoors mean that they lose less energy●**Define** ecological pyramid●Explain why might a scientist choose to construct a pyramid of number rather than a pyramid of biomass?●**Describe** what happens to the biomass in a food chain as you go up the trophic levels **Discussion of textbook questions pg.178**
Tuesday-7 th period (girls)	**Zoom session - SB9b-Enegy transfer** **Resources** : Board works & Video link **https://www.youtube.com/watch?v=XNuPKBIdqxQ** **Students able to** **.●Explain in terms of energy transfer** how living things are interdependent ●Describe how is energy transferred from each trophic level ,including ways in it is not used ●How does energy transfer limit the length of food chain ●**Calculate** the energy efficiency between trophic levels **Discussion of textbook questions pg.179**

Tuesday- 8 th period (girls) **Thursday – 5 th period (boys)**	**Zoom session-SB9C-Abiotic Factors & communities** **Resources:** Board works & Video link **https://www.youtube.com/watch?v=bVJqkFWX9As** **Students able to** ●Predict &**describe few** factors affecting distribution of organisms – availability of air, water ,light & temperature ●**Differentiate** abiotic & biotic factors ●Describe how natural abiotic factors affect communities?
Wednesday-7 th period (girls)	**GC** Students to complete the textbook questions on ecosystem and energy transfer and turn in their work in GC.

YEAR 11 B,C& F BIOLOGY (GCSE)

WEEK 25 (14th Feb to 18th Feb)

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

Topics – SB8e- Core practical – Respiration rates

L.O – Investigate the rate of respiration in living organisms.

Topics - SB9a- Ecosystem

L.O – Discuss components of ecosystem &energy transfer in an ecosystem through food chain/food web.

Sunday-8 th period (boys)	**Zoom session :** Discussion of Core practical-Respiration rates **Resources:** https://www.youtube.com/watch?v=WChr35ilD0o https://www.youtube.com/watch?v=WzO-gDnxhe8 **Students able to** ● Describe the use of respirometer ●**Analyse** the data obtained for respirometer experiment● **Compare** the use of respirometer & spirometer. **Discussion of textbook questions pg.173**
Tuesday -5th period (boys)	**GC** **Complete exam style questions on page 173 & turn in the work.**

Wednesday-6th period (boys)	**Zoom session-SB9a- Ecosystem** **Resources** : Board works & Video link **https://www.youtube.com/watch?v=BKB6-NbaPTE** https://www.youtube.com/watch?v=IIadTIIWSKI **Students able to** ●Define a community of organisms ●Explain how are ecosystems structured● Describe why is interdependence important in communities. **Discussion of textbook questions pg.176 &177**
Thursday – 5 th &6th periods (boys)	**Zoom session** **Students watch the r**ecorded video shown by teacher **Resources:** Video – Yeast Respiration **Students able to:-** ●Outline a method to determine **respiration rate** ●Identify risks and hazards. ●Calculate respiration rate**. ●Interpret** the results obtained**.** **Students to complete the Core Practical sheet and to turn in their work in GC within the assigned period.**

YEAR 12 - Batch 1 & 2 - BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

Work sent through Google classroom/G mail/Online Quiz/ZOOM Learning Platform

Topic 4.1.4 Exchange and transport & 4.2.1 Mammalian gaseous exchange system

L.O – Discuss active transport and bulk transport , the need for gaseous exchange surfaces

Biology Students Book 1

B1- Sunday – 8th period (Zoom) **B2- Tuesday – 3rd period (Zoom)**	**Students able to** ●Describe how large molecules can be transported into and out of cells through the formation of vesicles, in the processes of endocytosis and exocytosis. ●Analyse the importance of active transport in cells and bulk transport ●Explain the process of bulk transport, including the role of ATP ●Describe how the hydrolysis of ATP provides an accessible supply of energy for biological processes

	Board works-Transport across the membrane [slide No-16 -30] **Video and PPT: endocytosis & exocytosis and active transport.** **Websites:**www.science.co.uk/biology/bulktransport.html, www.internet4classrooms.com Research the link between carrier proteins for active transport and the symptoms of the genetic disease cystic fibrosis. Write down the five most important facts Make a comparison chart for the transport of substances **Text Book Page Numbers – 220 & 221**
B1 - Monday – 1st & 2nd period (Zoom) **B2- Thursday – 5th and 6th period(Zoom)**	**Students able to** • Enlist the features of an efficient exchange surface in insects ,fish& plants. • Describe , in terms of surface area: volume ratio, why multi cellular organisms need specialized exchange surfaces and single-celled organisms do not • Explain how surface area to volume ratio affects transport of molecules in living organisms • Describe why organisms need specialised gas exchange surfaces as they increase in size **BOARD WORKS –Gas exchange-No [-1-3]** **Video and PPT:** Gas exchange and diffusion **:**www.science.co.uk/biology/surface areavolume ratiohtml, www.internet4classrooms.com Research and find some examples of organisms whose shapes reduce the need for specialised gas exchange structures **Text Book Page Numbers – 228 & 231**

YEAR 12 - Batch 1 - BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

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

Topic 2 . 4 - 1 – Meiosis and sexual reproduction

L.O – Discuss role of meiosis in forming gametes for sexual reproduction .

Topic 2 . 4 - 3 – Gametogenesis

L.O – Discuss Spermatogenesis & Oogenesis taking place in the Gonads

Biology Students Book 1

B1- Tuesday– 4th period(Zoom)	**Students able to** ● **Identify** gametes and gonads in animals and plants . ● **Describe** stages of meiosis 1 & 2 ● **Discuss** the role of synapsis, crossing over & independent assortment **Resources:** Boardworks & PowerPoint - Cell division Video link https://www.youtube.com/watch?v=nMEyeKQClqI https://www.youtube.com/watch?v=BmSTdA3wIs0 **Students to complete text book questions pg.131**
B1- Thursday– 1st period(Zoom)	**Students able to** ● **Identify** phases of gametogenesis in humans . ● **Describe** stages of spermatogenesis & Oogenesis in humans ●**Compare** spermatogenesis & Oogenesis **Resources:** Boardworks & PowerPoint - Gametogenesis & Video link **https://www.youtube.com/watch?v=q4XKDMS0fu8** **https://www.youtube.com/watch?v=P2xrao18BKM** **Students to complete worksheet – Asexual Reproduction & Cloning**
B1- Thursday– 2 nd period (GC)	**Thinking Bigger Activity- Cancer – Mitosis out of control** Students to complete the activity given on pg.123 related to Breast cancer / Cervical cancer and turn in the activity

YEAR 12 - Batch 2 - BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

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

Topic 2 . 4 - 3 – Gametogenesis

L.O – Discuss Spermatogenesis & Oogenesis taking place in the Gonads and Spermiogenesis forming functional sperm & Ovarian cycle forming mature follicle favoring fertilization in humans

Biology Students Book 1

B2- Monday – 5th period(Zoom)	**Students able to** ● **Identify** phases of gametogenesis in humans . ● **Describe** stages of spermatogenesis & Oogenesis in humans ●**Compare** spermatogenesis & Oogenesis **Resources:** Boardworks & PowerPoint - Gametogenesis & Video link **https://www.youtube.com/watch?v=q4XKDMS0fu8** **https://www.youtube.com/watch?v=P2xrao18BKM** **Students to draw and label flow charts – Spermatogenesis & Oogenesis**
B2- Monday –8th period(GC)	**Thinking Bigger Activity- Cancer – Mitosis out of control** Students to complete the activity given on pg.123 related to Breast cancer / Cervical cancer and turn in the activity
B2- Wednesday– 5th period(Zoom)	**Students able to** ● **Identify** phases of spermiogenesis & ovarian cycle in humans . ●**Explain** spermiogenesis in the testis & maturation of follicles in the ovary. ●**Differentiate** primary follicle ,secondary follicle & mature follicle . **Resources:** Boardworks & PowerPoint - Gametogenesis & Video link **https://www.youtube.com/watch?v=de0B-dLFYAU** **https://www.youtube.com/watch?v=7C9JmIA0fbw** **https://www.youtube.com/watch?v=QUY9pJsvNlU** **Students to complete worksheet – Asexual Reproduction & Cloning**

YEAR 13 Batch 1 & 2 - BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

Work sent through Google classroom/G mail/Online Quiz/ZOOM Learning Platform

Topic 10-Ecosystems [10.1,6,7]

L.O : Discus ecological techniques and statistical analysis.

Biology Students Book 2

B2- Sunday – 0 period (Zoom) **B1- Tuesday– 5th period (Zoom)**	**Students able to** ● Define abundance. ●Explain why samples of a population are taken. ●Differentiate between belt transects and line transects. ●Investigate the percentage cover of plants in field using frame quadrats. ●Differentiate between random sampling and systematic sampling .●Enlist four measures of abundance that are commonly used. **BOARD WORKS –Ecosystem and population [-22-26]** **Video and PPT:** Ecological techniques **:**www.science.co.uk/biology/Ecological techniques.html, www.internet4classrooms.com Search the Internet for 'virtual ecology practical' for a variety of virtual investigations using quadrats and transects**:** **Text Book Page Numbers – 256&258**
B2 - Monday – 8th & Thursday 7th period (Zoom) **B1- Thursday – 1st and 2nd period(Zoom)**	**Students able to** • Enlist four measures of abundance that are commonly used. ●Explain the technique mark, release and recapture .●Describe the different technique to collect invertebrates. ●Suggest a few methods used in monitoring the physical environment. ●Predict how density independent and density dependent factors affect the distribution and abundance of organisms **BOARD WORKS –Ecosystem and population [-22-26]** **Video and PPT:** Ecological techniques **:**www.science.co.uk/biology/Ecological techniques.html, www.internet4classrooms.com • Search the Internet for 'virtual ecology practical' for a variety of virtual investigations using quadrats and transects

	Text Book Page Numbers – 256 & 258 Devise an ACFOR scale for the abundance of one species in a habitat. Do an online search to find some examples of ACFOR scales that are commonly used. Choose one and consider the limitations that there might be in using it. Find out about the wide range of methods by which bird abundance and distribution can be studied, from mist nets and ringing to citizen science projects Why sampling is necessary and how random sampling makes samples more representative Runners connect many plants and may therefore not appreciate the difficulty of counting individual plants such as grass. Explain why?

YEAR 13 Batch 1& 2 - BIOLOGY

WEEK 25 (14th Feb to 18th Feb)

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

Topic 9.1 -3:- Chemical control in mammals & Topic 9.2 -1:- Nervous systems & neurons

L.O – Discuss mechanism of hormone action in humans and Compare structure of sensory ,motor & relay neuron in humans

Biology Students Book 2

B2 - Sunday –6th & 7 th Period (Zoom) **B1- Monday –1st & 2nd Period (Zoom)**	**Students able to** ● Describe how hormones work at cellular level. ● Explain how erythropoietin work at cellular level . ● Compare CNS and PNS . **Resources:** Board works & PPT – Nervous system & Video link **https://www.youtube.com/watch?v=TgNwxF3aQpE** **https://www.youtube.com/watch?v=m9jOXiYdMeY** **https://www.youtube.com/watch?v=lh4pdaWYu7A** **https://www.youtube.com/watch?v=jaWrMYChc5A** **Students to complete text book questions Pg.198 Q.1&2**

B2 - Monday– 3rd Period (Zoom) **B1- Tuesday – 4 th Period (Zoom)**	**Students able to** ● Identify major parts of a typical neuron . ● Compare structure of sensory, motor & relay neuron ● Explain the role of myelin sheath & significance of giant axons ● Design an investigation to find out conduction of nerve impulse along a neuron . . **Resources:** Board works & PPT – Nervous System & Video link **https://www.youtube.com/watch?v=HZh0A-lWSmY** **https://www.youtube.com/watch?v=O2kuU2mZzeU** **https://www.youtube.com/watch?v=03GUyBNKBPc** **https://www.youtube.com/watch?v=I6jxrxcLxiI** **Students to complete text book questions Pg.198 – 3&4**