YEAR 9 A-F – BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

SB2b-Growth in animals

L.O – Describe growth in organisms, including a cell division and differentiation in animals Demonstrate an understanding of the use of percentiles charts to monitor growth.

Sunday-Zero period(boys) **Sunday-7th period(girls)**	**Zoom: Growth in animals.** **Resources**: Textbook, Video Links & Power point. https://www.youtube.com/watch?v=jyxjXZ0vIz0 https://www.youtube.com/watch?v=UZwT-Jx8LzY Students able to: ●**Define** growth. ●**Explain** growth data in terms of percentile charts ●**Predict** the significance of percentile growth chart .
Sunday -1st period(boys) **Wednesday-2nd period (girls)**	**Zoom Session**: Discussion of Revision worksheets for assessment 1.
Sunday-2nd period(boys) **Wednesday -3rd period(girls)**	**GC** Students to complete the revision work sheet SB2a.3&SB2a.5 turn in their work in GC.

YEAR 10 A-F – BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

SB4i-Fertilisers & Biological Control

L.O- Explain the advantages and disadvantages of agricultural solutions to the demands of a growing human population, including use of fertilisers and biological control

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=dtxD68U2E4o Read Text book Page- 92-93 **Resources:** PowerPoint /Board work &Video link **Students able to:-** ●**Differentiate** chemical & biological control in plant breeding .●**Describe** ways by which biological control done linked with plant breeding . ●**Explain** how biological control can help to increase crop yield . **Discussion of Text book questions Page 92 (SB4i-Fertilisers & Biological Control)**
Tuesday – 1 st Period (Girls) **Thursday-1st Period(Boys)**	**ZOOM SESSION/GOOGLE MEET** **Students must watch the video link given below on** https://www.youtube.com/watch?v=uCxj4Bs0E3A Read Text book Page- 92-93 ●**Identify** the use of Fertilisers in plant breeding . ●**Describe** how fertilisers can damage the environment (by causing pollution leading to Eutrophication. ●**Explain** the advantages & disadvantages of chemical & biological control in plant breeding programs. **Discussion on Text book questions Page 93(SB4i-Fertilisers & Biological Control)**

SB4d&e-Classification& Breeds and Varieties

Monday-4th period (Boys) **Tuesday – 2 nd Period (Girls)**	**ZOOM SESSION/GOOGLE MEET** Revision Worksheet SB4d.2-Classification & SB4e.3-Breeds & Varieties to be discussed by the teacher.
Wednesday-4th period (Girls) **Thursday-2nd Period (Boys)**	**GOOGLE CLASSROOM** **Students to complete the** Revision Worksheet SB4d.2-Classification & SB4e.3-Breeds & Varieties **and turn in their work in GC .**

YEAR 11 A -F BIOLOGY (GCSE)

WEEK 27 (28th Feb to 4th March)

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

Topics–SB 9d -Biotic factors and communities **,SB9e -**Assessing pollution**, SB9f -**Parasitism & Mutualism **& SB9G-**Biodiversity & humans

L.O – Explain how communities can be affected by abiotic and biotic factors, including: competition, predation. Evaluate the use of indicator species as evidence to assess the level of pollution. Describe how the survival of some organisms is dependent on other species& explain the positive and negative human interactions within ecosystems and their impacts on biodiversity.

Sunday-6 th period(girls) **Sunday-8 th period(boys)**	**Zoom session- Biotic factors and communities** **Resources** : Board works & Video link**https://www.youtube.com/watch?v=VECARZ-zhKM** **Students able to** ●Describe how natural abiotic factors affect communities ●Explain how can competition & predation affect communities. **Discussion of textbook questions.(page 184 & 185)**

Monday -3 rd period(girls) Tuesday -5 th period (boys)	**Zoom Session– Parasitism & Mutualism** Resources: Board works & Video link **https://www.youtube.com/watch?v=GXTLvCrFl2o** **Students able to** ●Define mutualism and parasitism ●Give few examples of parasites & mutualists ●Explain how head lice benefit from parasitism but humans do not. ●Describe few adaptive features of tape worm to kill its host. ●Differentiate parasitic and mutualistic relationship with examples **Discussion of textbook questions.(page 188 & 189)**
Tuesday-7 th period(girls) Wednesday-6 th period(boys)	Zoom session –Assessing pollution Resources: Board works & Video link **https://www.youtube.com/watch?v=3iI65NVkA9w** **https://www.youtube.com/watch?v=I5UR9uMeWuQ** **Students able to** ●Define the term indicator species●Name two indicator species of clean water and two species for polluted water●Suggest why plants are not used as indicators of water pollution.●Explain why is clean air not news for rose growers.●Analyse & interpret the effects of various water pollutants. Discussion of textbook questions.(page 186 & 187)
Tuesday -8 th period(girls) Thursday-5 th period(boys)	Zoom session-Biodiversity & humans Resources: Board works & Video link **https://www.youtube.com/watch?v=jwnMfxDLYpY** **https://www.youtube.com/watch?v=pXCXXTgLoLE** **Students able to** ●How does fish farming affect ecosystem & introduction of new species affect the ecosystem●Define eutrophication●Suggest few factors contributing in eutrophication.●Explain why fertiliser use is increasing●Describe the series of changes happening during eutrophication. Discussion of textbook questions.(page 190 &191)
Wednesday-7 th period (girls) Thursday -6 th period(boys)	**GC** Students to complete the text book questions on page 184 to 187& turn in their work.

YEAR 11 G & H – BIOLOGY (IGCSE)

WEEK 27 (28th Feb to 4th March)

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

Topic 15: Human influences on the environment.

L.O.: Understand the biological consequences of pollution of air including global warming and water pollution such as eutrophication.

Sunday- 4th period	**Zoom: Understand** the biological consequences of pollution of air by sulfur dioxide and carbon monoxide and describe how human activities contribute to greenhouse gases. **Resources**: Textbook, Video Links & Power point. https://www.youtube.com/watch?v=2ri95j0cShg https://www.youtube.com/watch?v=yQRLtCrJHy8 Textbook page : 204-220 **Students able to:** ●**List a** few air pollutants that are greenhouse gases and their sources. ●**Describe** how human activities. ●**State** the importance of the ozone layer. ●**Explain** the consequences of global warming .●**Explain** the biological consequences of pollution of air by carbon monoxide.
Monday- 7th period	**Zoom: Understand** the effects of deforestation, including leaching, soil erosion, disturbance of evapotranspiration and the carbon cycle, and the balance of atmospheric gases. **Resources**: Textbook, Video Links & Power point. https://www.youtube.com/watch?v=A63QpIPYlY0&t=36s https://www.youtube.com/watch?v=A63QpIPYlY0 Textbook page : 204-220 **Students able to:** ●**Explain** how reforestation can affect biodiversity. ●**Predict** the effects of disturbance of evapo transpiration, the carbon cycle and the balance of atmospheric gases.●**Identify** which process removes /adds carbon dioxide from/into the air.

Tuesday – 3rd and 4th period	**Zoom: Understand** the biological consequences of pollution of water by sewage. **Understand** the biological consequences of eutrophication caused by leached minerals from fertilizers. **Resources**: Textbook, Video Links & Power point. https://www.youtube.com/watch?v=mLbDbmmV6Qc https://www.youtube.com/watch?v=pXCXXTgLoLE Textbook page : 204-220 **Students able to:** ●**Define** eutrophication. ●**List** few indicator species of water pollution. ●**Describe** the series of changes happening during eutrophication. ●**Describe** how pollutants can accumulate in the food chain. ●**Explain** the biological consequences of pollution of water by sewage. **Analyse & interpret** the effects of various water pollutants.
Wednesday – 5th period	**GC:** Students complete textbook questions on Topic 15: Pages 219-220 and turn in their work on GC **Resources**: Textbook

YEAR 12 B1 & B2- BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

Topic:4.3-Circulation- Principles of circulation, the roles of blood, transporting carbon dioxide and oxygen.

L.O – Describe the structure of blood as plasma and blood cells, including erythrocytes and leucocytes (neutrophils, eosinophils, monocytes and lymphocytes),the structures and functions of haemoglobin and myoglobin

Biology Students Book 1

B1- Sunday – 8th period[Zoom] **B2- Tuesday – 3rd period [Zoom]**	**Students able to** • Describe open versus closed circulatory systems • Compare the structure of red blood cells, phagocytes and lymphocytes. • **Identify** how the structure of RBC, WBC and platelets related to their function. • Predict the significance of thromboplastin in blood clotting process. • **Explain** the blood clotting mechanism **BOARD WORKS –Circulation and blood –[No 3-13-25]** **Video and PPT: Single and double circulatory system** :www.science.co.uk/biology/blood structure and function.html, www.internet4classrooms.com Visit www.nhlbi.nih.gov/health and search for 'heart contraction' for a useful animation Compare and contrast double and single circulatory systems with a man-made system, such as heating systems. **Text Book Page Numbers – 246 to249**
B1 - Monday – 1st & 2nd period (Zoom) **B2- Thursday – 5th and 6th period(Zoom)**	**Students able to** • Explain the structure of haemoglobin in relation to its role in the transport of respiratory gases, including the oxygen dissociation curve of haemoglobin and the Bohr effect • Describe the similarities and differences between the structures and functions of haemoglobin and myoglobin .**Resources/Materials**:

	BOARD WORKS – BOARD WORKS –Gas exchange No [17-25] **Video and PPT:** Oxygen transport :www.science.co.uk/biology/oxygen transport.html, www.internet4classrooms.com **Extend:** Visit www.altitude.org, click on 'Calculators' and then 'Hemoglobin saturation curve'. Investigate the effect of changing different parameters of the affinity of Hb for oxygen and make notes of what you discover **Text Book Page Numbers – 250 & 251**

YEAR 12 - Batch 1 - BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

Topic 2 . 4 - 3 – Gametogenesis & Topic 2 . 4 - 4 – Fertilisation in plants

L.O –Discuss gametogenesis , double fertilization and alternation of generation in plants .

Biology Students Book 1

B1- Tuesday– 4th period(Zoom) **B1- Thursday– 1st period(Zoom)**	**Students able to** ● **Compare** megagametogenesis and maturation of ovule to microgametogenesis. ●**Differentiate** sporophyte &gametophyte generation in plants **.** ●**Explain** types of pollination and its role in sexual reproduction in plants . ●**Describe** double fertilization in plants forming diploid zygote & triploid endosperm **Resources:** Boardworks & PowerPoint - Gametogenesis & Video link **https://www.youtube.com/watch?v=eHIVMpq923g** **https://www.youtube.com/watch?v=uD4qxTYQwVc** **https://www.youtube.com/watch?v=KlR96TBN9QI** **https://www.youtube.com/watch?v=aT-_ueLkQKw** **Students to complete text book questions – pg.139**
B1- Thursday– 2 nd period (GC)	**Students to complete worksheet on cell cycle, mitosis & meiosis and turn in work in GC**

YEAR 12 - Batch 2 - BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

Topic 2 . 4 - 4 – Fertilisation in plants and mammals

L.O – Discuss Fertilisation in plants and animals .

Biology Students Book 1

B2- Monday – 5th period(Zoom)	**Students able to** ●**Describe** double fertilization in plants forming diploid zygote & triploid endosperm ●**Define** key terms-heterostyly, dichogany, monoecious, capacitation, acrosome reaction, cortical reaction & polyspermy ●**Compare** double fertilization, external & internal fertilization in organisms. ● **Explain** stages of fertilization in humans- capacitation, acrosome reaction, cortical reaction, fusion of male & female pronuclei **Resources:** Boardworks & PowerPoint - Fertilisation & Video link https://www.youtube.com/watch?v=y-emlY6DBH8 https://www.youtube.com/watch?v=_5OvgQW6FG4 https://www.youtube.com/watch?v=W3lS2AnrXFI **Students to complete text book questions – pg.142**
B2- Monday –8th period (GC)	**Students to complete worksheet on cell cycle, mitosis & meiosis and turn in work in GC**
B2- Wednesday– 5th period(Zoom)	**Assessment 1 :** Topic 2.3 1 - Cell cycle Topic 2.3 2- Mitosis Topic 2.4 1- Sexual reproduction & meiosis **Students to complete the assessment and turn in as pdf in GC**

YEAR 13 B1 & B2- BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

Topic 10-Ecosystems [10.3-1-5]

L.O – Human influences on ecosystem, climate change, managing biological resources, conserving biodiversity

Biology Students Book 2

B1- Tuesday –5th period (Zoom) **B2- Sunday –zero period (Zoom)**	**Students able to-** ●Define global warming. ●**Explain** greenhouse effect. ●State one human activity that increases atmospheric carbon dioxide concentration. ●**Describe** two human activities that increase atmospheric methane concentration. ●Predict the adverse effect of global warming in future. ●Predict the adverse effect of global warming in future. ●How the conflicts between human needs and climate change actions differ around the world. [They often have a viewpoint that is heavily biased towards Western cultures]●Why recycling of nutrients in ecosystem is important. **Resources/Materials**: **BOARD WORKS –Nutrient cycling and global warming- [20-30]** **Video and PPT:** Global warming **:**www.science.co.uk/biology/globalwarming.html, www.internet4classrooms.com **Text Book Page Numbers – 284-291** The models of global carbon dioxide stabilization show a great deal of uncertainty and variety. **Explain** why the models are so uncertain. Research the recycling of another element that is essential for life, such as oxygen, phosphorous, magnesium or potassium..

B1- Thursday – 1st and 2nd period(Zoom) **B2 - Monday – 8th & Thursday 7th period (Zoom)**	**Students able to-** • Describe the data relating to human influences on ecosystems, including the depletion of biological resources, such as overfishing • Explain how the sustainability of resources depends on effective management of the conflict between human needs and conservation • Explain the effect that treaties such as CITES have had on global biodiversity. • How multiple cropping and sustainability' can improve the sustainability of crops. • Fish stocks always recover if fishing is stopped. Explain why this is not always the case. **BOARD WORKS –Conservation and biodiversity [3-18]** **Video and PPT:** Conservation and biodiversity. **:**www.science.co.uk/biology/conservation and biodiversity.html, www.internet4classrooms.com Find out about a large development in your local area. What restrictions were placed on the development for conservation reasons? How multiple cropping and sustainability' can improve the sustainability of crops. Fish stocks always recover if fishing is stopped. Explain why this is not always the case. **Text Book Page Numbers – 292 & 299** .

YEAR 13 B1& B2 - BIOLOGY

WEEK 27 (28th Feb to 4th March)

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

Topic 9.2 – 5 : Sensory systems & detection of light & Topic 9.2 – 6:- CNS- Brain & spinal cord

L.O – Discuss structure of human eye & mechanism of vision and reflex actions related to human eye .Describe the parts & functions of various parts of the human brain

Biology Students Book 2

B2 - Sunday –6th & 7 th Period (Zoom) **B1- Monday –1st & 2nd Period (Zoom)**	**Students able to** ● Identify parts & functions of human eye ● Describe detail structure of human retina ● Explain how eye works related to accommodation & pupil reflex **Resources:** Board works & PPT – Structure of Human Eye &Video link https://www.youtube.com/watch?v=7HGxjs_aYyg https://www.youtube.com/watch?v=4kpXKu5QKww https://www.youtube.com/watch?v=RBJnclxslmQ https://www.youtube.com/watch?v=QU_AOwsLExo **Students to research on role of cerebral lobes ,cerebellum, medulla oblongata , hypothalamus and spinal cord in coordination**
B2 - Monday– 3rd Period (Zoom) **B1- Tuesday – 4 th Period (Zoom)**	**Students able to** ● Compare transmission of nerve impulse along neuron & receptor cells in human retina ● Identify lobes of the Cerebral hemisphere and functions of occipital, parietal, frontal and temporal lobes ● Describe the structure and functions of cerebellum, hypothalamus& medulla oblongata in relation to coordination of response **Resources:** Board works & PPT – Structure of human brain & Video link https://www.youtube.com/watch?v=kMKc8nfPATI https://www.youtube.com/watch?v=gGeZaEABacE https://www.youtube.com/watch?v=1iiW5Z52dcg https://www.youtube.com/watch?v=5bCCb7lj6QA **Students to complete text book questions Pg.210**