Grade 11 Life Sciences - end of year Exam information 2016

1. **Exam content**

**Practical Exam: Mon 14 Nov (1 hour, 60 marks)**

- All SBA practicals done throughout the year.
- All practicals done from the practical workbooks session 1 and 2.
- Please revise:
  - Graph skills
  - Hypothesis formation
  - Experiment evaluation

**Paper 1: Tues 15 Nov (2.5 hours, 150 marks)**

**Strand 2: Life Processes in Plants and Animals**

**Topic 1: Energy transformations to sustain life: Photosynthesis**

- The process of photosynthesis
- Factors affecting the rate of photosynthesis
- Role of ATP as energy carrier

**Topic 2: Animal nutrition**

- Process of animal nutrition in mammals
- Macro-structure of the human alimentary canal
- Mechanical and chemical digestion
- Dentition of different lifestyles
- Absorption and assimilation
- Homeostatic control of blood sugar levels
- Balanced nutrition, malnutrition, food allergies, tooth decay, alcohol and drug abuse

**Topic 3: Respiration**

- Cellular respiration
- Aerobic and anaerobic respiration

**Topic 4: Gaseous Exchange**

- Gaseous exchange organs in different environments
- Requirements of gaseous exchange
- Human ventilation system
- Gaseous exchange process and transport of gases
- Respiratory diseases and disorders
- Altitude and gaseous exchange

**Topic 5: Excretion**

- Role of organs
- Urinary system
- Homeostatic control of water and salts
**Strand 3: Environmental Studies**

**Topic 1: Population Ecology**
- Describing and estimating growth curves
- Interactions and social organisation
- Community changes over time
- Human population

**Paper 2: Mon 29 Nov (2.5 hours, 150 marks)**

**Strand 1: Diversity, Change and Continuity**

**Topic 1: Biodiversity and classification of micro-organisms**
- Classification of micro-organisms
- Viruses, Bacteria, Protists, Fungi
- Role of micro-organisms in maintaining balance in the environment
- Immunity
- Micro-organisms in medicine and traditional technology

**Topic 2: Biodiversity of plants**
- Evolutionary development of the major plant groups
- Bryophytes, Pteridophytes, Gymnosperms, Angiosperms

**Topic 3: Reproduction in plants**
- Asexual and sexual reproduction in plants
- Flowers as reproductive structures
- Significance of seeds

**Topic 4: Biodiversity of animals**
- Body plans and grouping of animals: concept of a phylum
- Six major animal phyla
- Role of invertebrates in agriculture and ecosystems

**Strand 3: Environmental Studies**

**Topic 2: Human Impact on the environment**
- The atmosphere and climate change
- Water availability
- Water quality
- Food security
- Loss of biodiversity
- Solid waste disposal
2. **Exam format**

**Practical Exam:** A number of stations at desks around the classroom.
You will be required to visit each station, where you will:
- ✔ *observe* specimens or pictures, including using a microscope;
- ✔ accurately *draw* a specimen from life or under the microscope;
- ✔ carry out an experiment and *discuss* hypothesis, method, results, conclusion;
- ✔ either draw or interpret a *graph* (line, pie or bar graph).

**Papers 1 and 2:**

**Section A – Short questions.** Multiple choice, definitions, linking of columns, label diagrams. **50 marks**

**Section B – Data questions.** Label and explain diagrams, discuss functions and biological processes, interpret tables and graphs, manipulate data (eg draw graphs). **80 marks**

**Section C – Essay question.** Answer a question in a paragraph (not point form). **20 marks**

**Total** **150 marks**

Remember to bring: Basic stationery (pen, pencil, eraser, ruler)
Calculator and protractor