2019/2020

Year

10GRADE SYLLABUS

(IGCSE)

PREPARED BY:

Physics Department

1st Semester

01

MAKING MEASUREMENTS

- Measuring length and volume
- Improving precision in measurements
- Density
- Measuring time

02

DESCRIBING MOTION

- Understanding speed
- Distance-time graphs
- Understanding acceleration
- Calculating speed and acceleration

03

FORCES AND MOTION

- Mass weight and gravity
- Falling and turning
- Force, mass, and acceleration
- The idea of momentum
- More abour scalars and vectors

04

TURNING EFFECT OF FORCES

- The moment of force
- Calculating moments
- Stability and center of mass

1st Semester

05

FORCES AND MATTER

- Forces acting on solids
- Stretching springs
- Hooke's law
- Pressure
- Calculating pressure

06

ENERGY TRANSFORMATIONS AND ENERGY TRANSFER

- Forms of energy
- Energy conversions
- Conservation of energy

07

ENERGY RESOURCES

- The energy we use
- Energy from the sun

08

WORK AND POWER

- Doing work
- Calculating work done
- Power
- Calculating power

2ND SEMESTER

01

THE KINETIC MODEL OF MATTER

- State of matter
- The kinetic model of matter
- Forces and kinetic theory
- Gases and kinetic theory

02

THERMAL PROPERTIES OF MATTER

- Temperature and temperature scales
- Designing a thermometer
- Thermal a thermometer
- Thermal expansion
- Thermal capacity
- Specific heat capacity
- Latent heat

03

THERMAL (HEAT) ENERGY TRANSFERS

- Conduction
- Convection
- Radiation
- Some consequences of thermal (heat) energy transfer

04

PROPERTIES OF WAVES

- Describing waves
- Speed, frequency, and wavelength
- Explaining wave phenomena

2ND SEMESTER

05

SOUND

- Making sound
- At the speed of sound
- Seeing sounds
- How sound travel

06

LIGHT

- Reflecting light
- Refraction of light
- Total internal reflection
- Lenses
- Microscope and telecope

07

SPECTRA

- Dispersion of light
- The electromagnetic spectrum

STUDENT'S REPORT

25%

MIDTERM AND FINAL EXAM

75%

ASSIGNMENTS (Projects, Portfolio, Workbook, Hands on, Discussion, Presentation) AND QUIZZES

Google for Education

KESATUAN BANGSA SCHOOL YOGYAKARTA

Cambridge Assessment International Education

Cambridge International School