THE INTERNATIONAL SCHOOL BANGALORE
GRADE 9– SCIENCE ENTRANCE EXAMINATION DETAILS

I. SYLLABUS OUTLINE

A student applying to Grade 9 is expected to have sufficient knowledge and understanding of the following topics, as per a Grade 8 level curriculum:

Biology

1. Cells – structure and function
2. Cell division – mitosis and meiosis
3. Enzymes
4. Photosynthesis
5. Human nutrition
6. Transport in human
7. Transport in plants
8. The nervous system in human
9. Respiration and gas exchange in human
10. DNA and genetic code
11. Inheritance and variation
12. Plant reproduction
13. Human reproduction
14. Ecology

Note: Please edit and update the specific topics above as relevant to your academic expectations.

Physics

1. Force
   - Floating and sinking
   - Using ideas about density
2. Pressure
   - Pressure
   - Using pressure
   - Pressure in liquids, pressure = rho g h
   - Pressure in gases, gas laws
   - Diffusion of gases and liquids

3. Energy
   - Hot and cold
   - Conservation of energy
   - Energy transfer: conduction
   - Energy transfer: convection
   - Energy transfer radiation

- Cooling by evaporation

4. Electricity
   - Current in series and parallel circuit - numerical
   - Voltage in series and Parallel
   - Resistance
   - Planning investigations: resistance of a wire
   - Energy and power

5. Sound
   - Loudness and amplitude
   - Pitch and frequency
   - Hearing dB and risk
   - Adding up and cancelling out

6. Space Physics
   - The origin of the universe
   - Coalition asteroid and mass extensions
   - Collisions and the moon
   - The life cycle of stars

Chemistry

1. Atoms, molecules and compounds
2. Atomic Structure
3. Metals and non-metals
4. Chemical Bonding
5. Gases
6. Types of reactions
7. Rates of reaction
8. Redox Reactions
9. Electrochemistry
10. Stoichiometry

II. QUESTION PAPER PATTERN

- **Nature of Questions:** Multiple Choice Questions (MCQs)
- **Number of Questions:** 25 (from all three sciences)
- **Duration:** 30 minutes

III. Links to Past Questions

1. Grade 9 QP Science Entrance Exemplar.pdf
2. Grade 9 Marks Scheme Science.pdf