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SMART SAYLLABUS

MATHS, PHYSICS, CHEMISTRY, BIOLOGY

Class 10th (KPK)

NAME: _____

F.NAME: _____

CLASS:_____ SECTION: _____

ROLL #: _____ SUBJECT: _____

ADDRESS: _____

_____

SCHOOL: _____

Smart Syllabus 10th Class Mathematics (KPK Science) 2020-21		
Exercise 1.1 (Q.1, 2, 3) Exercise 1.2 Q.1 (i), (iii), (iv), (vi), (vii), (viii), (xi), (xiii) Exercise 1.3 Q.1 (i), (iv), (v), (vii), (ix) Q.2 Review Exercise 1 (Q.1) Exercise 2.1 (Q.1, 2, 3) Exercise 2.2 (Q.1, 2, 3) Exercise 2.3 (Q.1, 2, 3, 5, 6, 7) Exercise 2.4 (Q.2, 4, 5, 6) Exercise 2.5 (Q.1, 2, 4, 6) Exercise 2.6 Q.1 (i), (iv), (vi), (vii) Exercise 2.7 (Q.1, 2, 5, 6, 8, 9) Review Exercise 2 (Q.1) Exercise 3.1 (Q.1, 2, 3, 4, 5, 6) Exercise 3.2 (Q.1, 2, 4, 7) Exercise 3.3 (Q.1, 3, 5, 7) Exercise 3.4 (Q.1, 2, 3, 5, 6, 7) Exercise 3.5 (Q.1, 2, 3, 4, 5) Review Exercise 3 (Q.1)	Exercise 4.1 (Q.1, 3, 4, 6, 7, 9, 10) Exercise 4.2 (Q.1, 3, 4, 7, 9, 10) Review Exercise 4 (Q.1) Exercise 5.1 (Q.1, 2, 4) Exercise 5.2 (Q.1, 2, 3, 4) Exercise 5.3 (Q.2, 3, 5) Exercise 5.4 (Q.1, 2, 4) Exercise 5.5 (Q.1, 4, 5, 6) Review Exercise 5 (Q.1) Exercise 6.1 (Q.1, 3, 4) Exercise 6.2 (Q.1, 2, 4, 6) Exercise 6.3 (Q.2, 3, 4, 6, 7, 8, 9) Exercise 6.4 (Q.1, 3, 4, 5, 6) Review Exercise 6 (Q.1) Exercise 7.1 (Q.1, 2, 3, 4) Exercise 7.2 (Q.1, 2, 3, 5, 6, 7, 8) Exercise 7.3 (Q.1, 2) Exercise 7.4 (Q.1, 2, 3, 4, 5, 6) Exercise 7.5 (Q.1, 2, 5, 6, 11, 12, 13, 14, 15, 16, 17) Exercise 7.6 (Q.1, 3, 4, 7) Review Exercise 7 (Q.1)	Theorem 8.1 Review Exercise 8 (Q.1) Theorems 9.1, 9.2, 9.3, 9.4 and 9.5 Review Exercise 9 (Q.1) Theorems 10.1, 10.2 and 10.3 Review Exercise 10 (Q.1) Theorems 11.1 Case (a), 11.2 Case (a), 11.3 Case (b) and 11.4 Case (b) Review Exercise 11 (Q.1) Theorems 12.3 (a), 12.3 (b) and 12.3 (c) Review Exercise 12 (Q.1) Exercise 13.1 (Q.2, 4, 5, 6, 9) Exercise 13.2 (Q.1, 2, 3, 4, 5, 6, 7) Exercise 13.3 (Q.1, 3, 4, 5, 6, 8) Review Exercise 13 (Q.1)

Table of Test Specification (Sample)

S. No.	Unit	Percentage	Section-A		Section-B		Section-C	
			No. of MCQs	Marks	No. of Questions	Marks	No. of Questions	Mark
1	Quadratic Equations	7%	1	1	1	4	-	-
2	Theory of Quadratic Equations	13%	1	1	2	8	-	-
3	Variations	6%	1	1	1	4	-	-
4	Partial Fractions	5%	1	1	1	4	-	-
5	Sets and Functions	12%	1	1	2	8	-	-
6	Basic Statistics	10%	2	2	1	4	-	-
7	Introduction to Trigonometry	11%	2	2	1	4	-	-
8	Projection of a Side of a Triangle	6%	1	1	1	4	-	-
9	Chords of a Circle	5%	1	1	-	-	1	8
10	Tangent to a Circle	6%	1	1	-	-	1	8
11	Chords and Arcs	5%	1	1	1	4	-	-
12	Angle in a Segment of a Circle	6%	1	1	1	4	1	8
13	Practical Geometry - Circle	8%	1	1	-	-	1	8
	TOTL	**100%**	**15**	**15**	**12**	**48**	**04**	**32**

Percentage (Cognitive Levels)

Cognitive Level	Percentage
Knowledge	10%
Understanding	20%
Application	70%

Percentage (Difficulty Levels)

Difficulty Level	Weightage
Easy (E)	15%
Moderate (M)	70%
Difficult (D)	15%

Physics Grade-X		
Topics		**Topics**
Unit # 10 **Simple Harmonic Motion** Oscillatory motion o Explanation of the terms associated with oscillatory motion □ Simple Harmonic Motion □ Motion of mass attached to a spring □ Nature of waves and their types o Types of waves o Characteristic wave parameters		**Unit # 12** **Geometrical Optics** □ Reflection of light o Laws of reflection □ Spherical mirrors □ Refraction of light o Refractive index o Snell's law o Total internal reflection of light □ Lenses □ Lens equation o Short sightedness o Long sightedness
Exercise Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students		**Exercise** Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students
Unit # 11 **Sound** □ Sound waves o Production o Transmission o Detection □ Characteristics of sound o Pitch o Loudness o quality □ Sound Intensity o Definition and mathematical equation only □ Speed of Sound Waves o Speed of sound waves in air □ Reflection of sound waves and echo o Acoustic o Introduction only □ Audible frequency range o Infra sound o Ultra sound		**Unit # 13** **Electrostatic** o Electric charge o Electrostatic induction o Electroscope o Coulomb's law o Electric field and its intensity o Electric potential o Capacitors and combination of capacitors o Series combination of capacitors o Parallel combination of capacitors
Exercise Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students		**Exercise** Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students
		Unit # 14 **Current Electricity** o Electric Current □ Ohm's Law □ Combination of resistances o Series combination o Parallel combination □ The I-V characteristic for Ohmic and non ohmic conductors □ Electrical power and Joule's law □ Direct and Alternating current
		Exercise Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students

Physics Grade-X

Unit # 15
Electromagnetism

- Magnetic effect of a steady current
  - o Magnetic field due to a straight steady current carrying wire.
  - o Magnetic field due to a coil or solenoid
- Force on a current carrying conductor in a magnetic field
- DC Motor
- Electromagnetic Induction
  - o Factors affecting magnitude of induced emf
  - o Direction of induced emf and conservation of energy
- Mutual Induction
- Transformer

Exercise

Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students

Unit # 16
Introductory Electronics

- Cathode Ray Oscilloscope (CRO)
- Logic Gates

Exercise

Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students

Unit # 17
Information and Communication Technology

- Excluded

Unit # 18
Radioactivity

- Atom and atomic nucleus
- Radioactivity
  - o Nature of emission
  - o Relative ionizing abilities
  - o Relative penetration abilities
- Half Life
- Radioisotopes
  - o Uses
- Nuclear Fission
  - o Discovery
  - o Fission Chain reaction
- Nuclear Fusion

Exercise

Questions and problems in given exercise from above selected Topics should be answered and Solve by teacher or given as home assignments to students

Practical of Physics

1	To prove that time period of a simple pendulum is independent of (i) mass of the pendulum (ii) amplitude of the vibration
2	
3	To find the refractive index of water by using concave mirror.
4	To determine the critical angle of glass using a semi -circular slab and a light ray box/or by prism.
5	Verify Ohm's law (using wire as conductor).
6	To find the resistance of galvanometer by half deflection method.
7	To trace the magnetic field using a bar magnet
8	To trace the magnetic field using a bar magnet
9	To verify the truth table of OR, AND, NOT, NOR and NAND gates.

Assessment weightage of Physics Grade –X According to (Curriculum, 2006)

SAMPLE: TOS (TABLE OF SPECIFICATION)

Table1. Cognitive abilities assessment weightage in Physics Grade-X Theory Paper

Questions	Knowledge (K)			Understanding (U)			Application (A)		
	Questions	Marks	%	Questions	Marks	%	Questions	Marks	%
MCQs	2	2	17	9	9	75	1	1	8
Short Questions	1	4	10	9	36	80	1	4	10
Long Questions	1	3	11	3+3	9+12	74	1	4	15

Table 2. Overall assessment Percentage of (Cognitive Levels)

Cognitive Level	Percentage
Knowledge(K)	20
Understanding(U)	45
Application(A)	35
Total	100

Table 3. Chapter wise assessment weightage in Physics Grade-X Theory Paper

Unit No	Unit	Assessment weightage	MCQs Section-A Marks: 12		Short Questions Section-B Option: 8 questions out of 11 Marks:32		Long Questions Section-C Option: 3 questions out of 4 Marks:21	
			Question	Marks	Questions	Marks	Questions	Marks
10	Simple Harmonic Motion and Waves	10	1	1	1	4	1	3
11	Sound	10	1	1	1	4	1	4
12	Geometrical Optics	10	2	2	1	4	1	4
13	Electrostatics	12	1	1	1	4	1	3
14	Current Electricity	14	2	2	2	8	1	4
15	Electromagnetism	14	1	1	2	8	1	3
16	Introductory Electronics	10	2	2	1	4	1	3
17	Information and Communication Technology	10	1	1	1	4	-	-
18	Radioactivity	10	1	1	1	4	1	4
Total	-	**100**	**12**	**12**	**11**	**44**	**8**	**28**

Note: This Table of specification is a sample TOS for Physics Grade-X paper.

CHEMISTRYGRADE-X

Unit # 9
CHEMICAL EQUILIBRIUM

- Introduction
- Reversible and dynamic equilibrium

Graphical representation of dynamic equilibrium and its example

- Forward reaction and reverse reaction
- Law of mass action
- Derivation of the expression for equilibrium constant of a general reaction
- Equilibrium constant and its units
- Finding values of equilibrium constant

Exercise

- MCQs: 1,2,3,4,6,8,9,10
- Short question:

Q1,2,3,5,6,8,9

- Long questions:

Q1(i),(ii),(iii) Q2(a)&(b) Q3 part (a) only
Q4 part(a) only Q5 part(a) only

Unit # 10
ACIDS, BASES AND SALTS

- Concept of Acids and Bases
- Arrhenius concept of Acids and Bases
- Bronsted and lowery concept
- Lewis concept of Acids and Bases
- pH and pOH
- Example No. 10.2 and 10.3
- Neutralization reaction
- Salt
- Table 10.4
- Types of salts

Exercise

- MCQs: 1,2,3,4,5,6,7,8,9
- Short questions: 1,2,4,5,6,8,9,10
- Long questions:

Q1 (a)&(b)
Q3 (a)&(b)
Q4 (a),(b)&(c)
Q5 (a)&(b)

Unit # 11
ORGANIC CHEMISTRY

- Molecular formula
- Structural formula
- Condensed formula
- Dot and cross formula
- Organic compounds
- Classification of organic compounds
- Diversity and magnitude of organic compounds
- Alkane
- Naming of alkane
- Homologous series
- Cyclo alkanes
- Alkyl radicals
- Functional group containing C,H and oxygen
- Functional group containing C,H and N
- Functional group containing C,H & Halogen
- Double and triple bond

Exercise

- MCQs: 1,2,3,4,5,6,7,10
- Short questions: 1,3,4,6,8,9,10
- Long questions:

Q1 part (b) only Q3 both (a)&(b)
Q4 (a),(b)&(c) Q5 (a),(b)&(c)

Unit # 12
HYDROCARBONS

- Introduction
- Alkanes
- Table 12.1
- Nomenclature
- Preparation of alkanes
- Hydrogenation of alkenes and alkynes
- Reduction of alkyl halides
- Physical Properties
- Important reactions

a. Halogenation
b. Combustion

- Alkenes
- Table 12.2
- Rules for Naming of alkenes
- Preparation

a. Dehydration of alcohol
b. Dehydrohalogenation of alkyl Halides

- Physical Properties
- Important Reactions

a. Addition of Halogens
b. Addition of Hydrogen Halides
c. Addition of Hydrogen

- Oxidation with KMnO4

CHEMISTRYGRADE-X

Exercise Unit # 12

- MCQs 1 to 10(All)
- Short questions

1,2,,4,5,6,7,8,10

- Long questions
- Q2 Part (i) only
- Q3 (i) & (ii)
- Q4 (a),(b), (c) & (d)
- Q5 a,b& c only

Unit # 13
BIOCHEMISTRY

- Carbohydrates
- Classification
- Sources of Carbohydrates
- Uses of Carbohydrates
- Proteins
- Amino acid as building block of proteins
- Sources and uses of proteins
- Lipids
- Classification
- Fatty Acids
- Difference between fats and oil
- Sources and uses of lipids

Exercise

- MCQs

1,2,3, 6, 7,8,9

- Short question

1,2,3,4,7,8,10

- Long question

Q1, Q2, Q3

Unit # 14
ENVIRONMENTAL CHEMISTRY-I; ATMOSPHERE

- Atmosphere
- Composition of Atmosphere
- Layers of Atmosphere
- Troposphere
- Stratosphere
- Table 14.2
- Importance of Atmosphere
- Acid Rain
- Formation of Acid Rain
- Effects of acid Rain on fishes and wild life
- Effects of acid Rain on Plants and Trees
- Effects of Acid Rain on Material
- Effects of Acid Rain on Human
- Effects of Acid Rain on Soil

Unit # 14

- Ozone depletion and its effects
- Ozone
- Occurrence of Ozone
- Ozone formation
- Ozone layer depletion
- Causes of Ozone Layer depletion
- Ozone Layer depletion
- Due to NOx
- Due to nascent Oxygen
- Due to SOx
- Ways to bring down Ozone Layer depletion
- Effects of global warming

Exercise

- MCQs

1,3,4,5,6,7,8,9,10

- Short Question

1,3,4,5,6,7,8,9,10

- Long Question

Q1 (a) & (b) Q3 (a) , (b) & (c)
Q4 (a), (b), (c) & (d) Q5 (a), (b) ,(c) & (d)

Unit # 15
ENVIRONMENTAL CHEMISTRY- II WATER

- Physical properties of water
- Chemical properties of water
- Thermal Stability of Water
- Reaction with metals
- Non-metals
- Reactions with metallic oxides
- Reactions with non-metallic oxides
- Hydrolysis
- Water as a universal Solvent
- Polarity of Water molecule
- Hydrogen Bonding
- Dielectric constant
- Soft and Hard Water
- Causes of hardness
- Types of Hardness of water

a. Temporary Hard Water
b. Permanent Hard water

- Methods of removing of Hardness
- Disadvantages of Hard Water

Exercise

- MCQs 1,2,3,4,5,7,10
- Short Questions 1,6,7,8
- Long Questions

Q1 part (b) and (c) only Q2 Q3 (a,b&c)

CHEMISTRYGRADE-X		
Unit # 16 **CHEMICAL INDUSTRIES** □ Introduction □ Basic Metallurgical operations with reference to Copper □ Concentration of Ore □ Crushing and grinding of the Ores a. Hand Picking b. Hydraulic washing c. Froth Flotation □ Extraction of Metals a. Roasting (red Hot) b. Smelting (Formation of matte) c. Bessemerization □ Electro-refining or purification of metals □ Petroleum Industry □ Petroleum □ Origin □ Occurrence □ Drilling of petroleum □ Important Fractions of petroleum □ Table 16.2		**Exercise Unit # 16** □ MCQS 2,4,5,8,9,10 □ Short questions 3,4,5,6,7,9,10 □ Long questions Q1 (a, b, c and d) Q4 (a, b & c) Q5 (a &b Only)
Chemistry Practical		
1	Identify, Na, K, Sr, Ba, Cu, Ca radicals by flame test	
2	To classify substances as acidic, basic and neutral	
3	To standardize the given NaOH solution volumetrically	
4	To determine the exact molarity of solution of oxalic acid volumetrically	
5	To identify aldehyde using Fehling's test and tollen's test	
6	To identify carboxylic acid using sodium carbonate test	
7	To identify saturated and unsaturated organic compounds by $KMnO_4$ test	
8	To demonstrate the softening of water by removal of Calcium Ions from Hard water.	

TABLE OF SPECIFICATION FOR CHEMISTRY PAPER GRADE-X

S#	Unit name	Assessment weightage		MCQs (Total-12)		Short questions (Section-B) (08/11 questions) Marks-32		Long Questions (Section-C) Questions 3/4 Marks-21	
		Curriculum - 2006	Adjust:	Questions	Marks	Questions	Marks	Questions	Marks
1	Chemical equilibrium	5	10	1	1	1	4	1/2 part of long question	3.5
2	Acids ,Bases and Salts	7	14	2	1	2	8	1/2 part of long question	3.5
3	Organic Chemistry	5	10	1	1	1	4	1/2 part of long question	3.5
4	Hydrocarbons	5	10	1	2	1	8	……	……..
5	Biochemistry	6	12	1	1	1	4	1/2 part of Long question	3.5
6	Environmental Chemistry I; The Atmosphere	7	14	2	2	2	8	1/2 part of long question	3.5
7	Environmental Chemistry II; Water	8	16	2	2	1	4	1/2 part of Long question	3.5
8	Chemical Industries	9	18	2	2	2	8	2/2 part of long question	7
	Total	**52**	**104**	**12**	**12**	**11**	**44**	**04**	**28**

Assessment weightage of Chemistry Grade –X According to (Curriculum, 2006) only for Session (2020-2021)

TOS (TABLE OF SPECIFICATION)

Cognitive Abilities Assessment Weightage in Chemistry Grade-X Theory Paper For Session (2020-2021)

Questions	Knowledge (K)			Understanding (U)			Application (A)		
	Questions	Marks	%	Questions	Marks	%	Questions	Marks	%
MCQs	**2**	**2**	**17**	**9**	**9**	**75**	**1**	**1**	**8**
Short Questions	**1**	**4**	**10**	**9**	**36**	**80**	**1**	**4**	**10**
Long Questions	**1**	**3**	**11**	**3+3**	**9+12**	**74**	**1**	**4**	**15**

Overall assessment Percentage of (Cognitive Levels)

Cognitive Level	Percentage
Knowledge(K)	10
Understanding(U)	78
Application(A)	12
Total	**100**

Instruction for teacher/Paper setters:

Teachers are requested to follow the above sample of specification while designing the test/paper

BIOLOGY GRADE-X

Unit # 10
GASEOUS EXCHANGE

- Respiration, Gaseous Exchange and breathing
- Gaseous exchange in plant
- Gaseous exchange in Human
- Mechanism of breathing
- Gaseous exchange in Lungs
- Respiratory Disorders
- Pneumonia
- Asthma

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 11
HOMEOSTASIS

- Homeostasis the plants
- Osmoregulation in plants
- Mesophytes
- Hydrophytes
- Xerophytes
- Halophytes
- Excretion in plants
- Excretion of Carbon dioxide and Oxygen
- Excretion of extra water (transpiration and guttation)
- Homeostasis in Humans
- Lungs as homeostasis organs
- Skin as homeostatic organ
- Kidney as homeostatic organs
- Urinary system of Humans
- Structure of Human Kidney (Renal corpuscle, renal tubule)
- Process of Urine formation (Pressure filtration, reabsorption, tubular secretion)
- Osmoregulation and Kidney
- Disorder of kidney
- Kidney stone
- Treatment of kidney stone

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 12
COORDINATION AND CONTROL

- Coordination in organisms (only 12.1)
- Human Nervous System
- Neuron, Nerves
- Division of Nervous System (CNS) (Central Nervous System and peripheral Nervous system)
- Receptors in the Human Body
- Photoreceptor eye
- Mechanism of vision
- Disorder of the eye
- Muslim Scientist in Ophthalmology (Ibn Al Haitham, Ali Bin Isa)
- Chemical Coordination
- Human endocrine gland (Pituitary gland, thyroid gland, pancreas, Adrenal gland, Gonads)

Disorders of Nervous System

- Epilepsy (Fits or mirgi)

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 13
SUPPORT AND MOVEMENT

- Human Skeleton
- Axial Skeleton
- Appendicular Skeleton
- Role of Skeletal System
- Composition of skeleton (Bones, Cartilage)
- Joints
- Role of Tendons and Ligaments
- Muscles and its types

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 14
REPRODUCTION

- Types Reproduction (Sexual and A Sexual reproduce)
- A Sexual reproduction in Unicellular Organism and Plants
- Binary fission (only in Amoeba)
- Multiple fission
- Budding
- Sexual reproduction in plants
- A Sexual reproduction in animals

BIOLOGY GRADE-X

Unit # 14
REPRODUCTION

- Fragmentation
- Budding
- Parthenogenesis
- Sexual reproduction in animals
- Formation of gametes – gametogenesis
- Oogenesis
- Fusion of gametes – Fertilization
(External fertilization, Internal fertilization)
- Need of population planning
- Sexually transmitted disease
- AIDS

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 15
INHERITANCE

- Introduction to genetics
- Chromosomes and genes
- Chromatin material
- Gene and allele
- Role of gene in protein synthesis
- Mendel's work on inheritance
- Mendel's Law of inheritance
- Law of segregation
- Law of independent assortment
- Variation and evaluation
- Sources of variation
(genetic recombination of chromosomes, crossing over, Mutation)

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 16
MAN AND HIS ENVIRONMENT

- Levels of ecological organization.
(Species, Population, Community, Ecosystem, Biosphere)
- Components of an ecosystem
- A biotic component of an ecosystem
(Sunlight, Water, Temperature)
- Biotic components of an ecosystem
(Producers, Consumer, Decomposers)
- Food Chain and Food web
- Biogeochemical Cycle
- Carbon cycle

Unit # 16
MAN AND HIS ENVIRONMENT

- Interaction in the ecosystem
(Competition, Predation)
- Global and regional environmental problems
(Deforestation and Global warming)

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 17
BIOTECHNOLOGY

- Importance of Biotechnology
- Fermentation
(Fermentation as a type of cellular respiration)
- Alcoholic fermentation by yeast cells
- Lactic acid fermentation by bacteria
- Fermentation products
- Genetic engineering and its uses
- Objectives of genetic engineering
- Basic techniques in genetic engineering
- Major achievement of genetic engineering (Achievement in the field of agriculture, achievement in curing animal diseases)

Exercise

Only the questions given in exercise are related to these topics should be solved.

Unit # 18
PHARMACOLOGY

- Medicinal drugs
- Sources of medicinal drugs
- Important uses of medicinal drugs
(Pain killers, Vaccines)
- Addictive drugs
(Sedative, Narcotics)
- Associated problems of drug addiction
- Symptoms of drug addiction
- Antibiotics
- Categories of antibiotics
Sulfonamides, Tetracyclines, Cephalosporins)
- Vaccine

Exercise

Only the questions given in exercise are related to these topics should be solved.

	Biology Practical
1	Activity to compare the breathing rate at rest and after exercise
2	Examination of the structure of kidney (sheep kidney / model)
3	Observation and recording of the difference in quickness of response of the two types of coordination (by asking a student to say a few words in front of the class and observe the change in heartbeat).
4	Investigation of the nature of bone (by putting three pieces of rib bone of lamb in water, NaOH and dilute HCl)
5	Observation of binary fission of ameba using slides, photomicrographs or charts
6	Recording the heights of class fellows to predict which kind of variation is it and presentation of the data of class fellows' heights in graphical form (either histogram or bar chart)
7	Investigation of an ecosystem e.g. a balanced aquarium/pond
8	Investigation about the role of yeast and bacteria in the fermentation of flour and milk

ASSESSMENT CRITERIA FOR FUTURE EAMINATIONS:

Assessment weightage of Biology Grade –X According to (Curriculum, 2006)

SAMPLE: TOS (TABLE OF SPECIFICATION)

Table1. Cognitive abilities assessment weightage in Biology Grade-X Theory Paper

	Knowledge (K)			Understanding (U)			Application (A)		
Questions									
	Questions	Marks	%	Questions	Marks	%	Questions	Marks	%
MCQs	2	2	17	9	9	75	1	1	8
Short Questions	1	4	10	9	36	80	1	4	10
Long Questions	1	3	11	3+3	9+12	74	1	4	15

Table 2. Overall assessment Percentage of (Cognitive Levels)

Cognitive Level	Percentage
Knowledge(K)	10
Understanding(U)	78
Application(A)	12
Total	**100**

Table 3. Chapter wise assessment weightage in Biology Grade-X Theory Paper

Unit No	Unit	Assessment weightage is given in Curriculum 2006	MCQs Section-A Marks: 12		Short Questions Section-B Option: 8 questions out of 11 Marks:32		Long Questions Section-C Option: 3 questions out of 4 Marks:21	
			Question	Marks	Questions	Marks	Questions	Marks
10	Gaseous Change	8	1	1	1	4	-	-
11	Homeostasis	12	1	1	1	4	1	3
12	Coordination and Control	17	2	2	2	8	1	3
13	Support and Movement	11	1	1	1	4	1	4
14	Reproduction	14	2	2	2	8	1	4
15	Inheritance	11	1	1	1	4	1	4
16	Man and His Environment	12	2	2	1	4	1	3
17	Biotechnology	7	1	1	1	4	1	3
18	Pharmacology	8	1	1	1	4	1	4
Total	**-**	**100**	**12**	**12**	**11**	**44**	**8**	**28**