Assessment Scheme

For Biology 11th Part I Session 2012-13 & ONWARD

Time:3 : 30 hrs Total Marks:- 100

Sr. No	*Chapters*	Weightage	Distribution of Marks	*M.C.Qs*				Short Answer Questions				*Essay Type Questions*				Questions relating to Practicals
				Allotted Marks 17				*Allotted Marks 44*				*Allotted Marks 24*				*Allotted Marks 15*
				Q. to be asked 17 *Q. to be attempted 17*				*Q. to be asked 33* *Q. to be attempted 22*				*Q. to be asked 5* *Q. to be attempted 3*				*Q. to be asked 5* *Q. to be attempted 3*
				Time 20 Minutes				*Time 3 Hours & 10 Minutes*								
				K	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	
1	Introduction	7 %	9	1	-	-	1	1	1	-	2	1	-	-	4	
2	Biological molecules	6 %	7	1	-	-	1	1	-	-	1	1	-	-	4	
3	Enzymes	6 %	7	1	-		1	2	1	-	3	-	-	-	-	
4	The cell	7 %	9	1	-	-	1	1	1	-	2	1	-	-	4	Question No.10=5 marks
5	Variety of life	6 %	7	1	-	-	1	1	-	-	1	1	-	-	4	
6	Kingdom prokaryote	6 %	7	1	-	-	1	-	-	1	1	1	-	-	4	Question No.11=5 marks
7	The kingdom protest	7 %	9	1	-	-	1	2	2	-	4	-	-	-	-	Question No.12 =5 marks
8	Fungi	7 %	9	1	-	-	1	1	1	-	2	-	-	1	4	
9	Kingdom planate	7 %	9	1	-	-	1	1	-	1	2	-	1	-	4	Question No.13 =5 marks
10	Kingdom animalia	8 %	10	1	1	-	2	2	2	-	4	-	-	-	-	Question No.14 =5 marks
11	Bioenergetics	8 %	10	1	-	1	2	1	-	1	2	-	-	1	4	
12	Nutrition	10 %	11	1	-	-	1	1	1	1	3	1	-	-	4	
13	Gaseous exchange	7 %	9	1	-	-	1	2	1	1	4	-	-	-	-	
14	Transport	8 %	10	1	-	1	2	2	-	-	2	1	-	-	4	
Total		100 %	123				17				66				40	25

Important Note:- 1) K= Knowledge. U= Understanding / Comprehension A= Application & Analysis

2) This scheme of Assessment is prepared as per 33% choice in short answer questions, essay questions & questions relating to practicals.

3) In order to promote the cause of concept based learning at least 10 % questions must be unseen or of daily life but relating to specified learning outcomes of Curricula & Syllabi. This portion will increase @ 10% annually but not more than 30%.

4) The questions relating to practical will be asked from the practical Note Book as per chapter were detail given in the curriculum and syllabi 2006.

5) The Practical will be conducted at the end of 10^{th} Class which is mandatory to qualify for award of certificate.
The Practical assessment will be made in the form of grading as per following criteria.
A+= 90% & above, A=80% to 89%, B= 70% to 79%, C= 60% to 69%, D= 50% to 59%, E= 40% to 49%, F= Fail = 40% & below

Model Paper Biology Objective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 17 Paper Code_____ Time Allowed: 20 minutes

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q.1	QUESTIONS	(A)	(B)	(C)	(D)
1	The study of tissues is called	paleontology	anatomy	histology	Evolution
2	The percentage of water in bacterial cell is	70%	60%	50%	40%
3	The optimum pH value for pepsin enzyme in stomach is	4.0	3.5	3.0	2.0
4	De Duve discovered the cell organelle	mitochondria	lysosomes	ribosomes	Chloroplast
5	In classification the order of Zea mays is	poales	anthophyta	plantae	Poaceae
6	The bacteria with tuft of flagella at one pole is called	a trichouos	monotrichous	lophotrichous	Amphitrichous
7	Apicomplexan move by	tube feet	pseudopodia	undulating	Flexing
8	The skeleton of arthropoda is made of	cellulose	chitin	poly saccharides	lignin
9	Unequal development of various branches during evolution 0f leaf is	webbing	fusion	overtopping	planation
10	The asexual reproduction in sponges is	fragmentation	budding	binary fission	multiple fission
11	Scorpion belongs to class	crustacea	insecta	arachnida	myriapoda
12	Oxygen produced during photosynthesis comes from	CO_2	H_2O	NADP	FAD
13	The colour of xanthophylls is	blue	red	green	yellow
14	Rodents are	herbivores	detritivores	carnivores	omnivores
15	The diameter of bronchiole is	3mm	2mm	1mm	0.1mm
16	The ions involved in the opening and closing of stomata are	sodium	calcium	potassium	magnesium
17	Attraction between water-water molecules in xylum tissue is called	tention	adhesion	cohesion	imbibition

Model Paper Biology Subjective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 83 **Time: 3:10 hours**

Section II

Q.2 Attempt any EIGHT short questions. (8x2=16)

i. Define the biological method.
ii. Differentiate between theory and law.
iii. Define conjugated molecules with two examples.
iv. Define apeozyme and holoenzyme.
v. Define cofactor and write its functions.
vi. Compare competative and non competative inhabitor.
vii. Differerentiate between diploblastic and triploblastic animals.
viii. Define blastocoel.
ix. Write any two benificial effects insects.
x. Diffrentiate between coelomate and acoelomate.
xi. Differentiate between systole and diastole.
xii. What do you know about blue babies?

Q.3 Attempt any EIGHT Short questions. (8x2=16)

i. Define pili with their functions.
ii. Describe briefly about giant amoeba.
iii. Draw the life cycle of plasmodium.
iv. Write down any two characteristic of Ciliates.
v. Define Kelps. With which group it belongs.
vi. Compare microphyll with magephyll leaves.
vii. Write the significance of double fertilization.
viii. What are accessory pigments?write their significance.
ix. Define glycolysis and how many ATP molecules are formed in this process.
x. Define adipose tissues. How are they formed.
xi. What is hunger pang? write its reason.
xii. Write two side effect of obesty.

Q.4 Attempt any SIX Short questions. (6x2=12)

i. Write the main points of cell theory.
ii. Write the method to calculate the magnification power of compound microscope.
iii. Write down botanical names of Amaltas and Brinjal.
iv. Define dikaryotic hyphae?
v. Compare basidiospores with ascoscopes.
vi. Compare myoglobin with haemogloban.
vii. Briefly describe Asthama.
viii. Write the roles of nose in man.
ix. Define respiratory distress syndrome.

SECTION III

Attempt any three questions. (8x3=24)

Q5(a). Write in detail two hypothesis for opening and closing of stomata. (2+2)

(b) Write note on biological method. (0+4)

Q6(a). Discuss any four function of proteins. (4)

(b) Describe plastids with their types. (1+3)

Q7(a) Explain charactistics of cyanobacteria. (4)

(b) Write various steps of Evolution of leaf. (4)

Q8.(a) Write a note on transport of oxygen in man. (4)

(b) Elaborate the non cyclic phosphorylation with the help of diagram. (3+1)

Q9.(a) Explain digestion in stomach. (4)

(b) Write a note on Zygomycetes. (4)

Section IV

Attempt any three questions. (5x3=15)

Q10. (a) You are provided with egg albumin and Million reagent. Write biochemical test for the the substance which egg contain. (3)

(b) Write two examples of reducing sugars. (2)

Q11. (a) You are given the flower Rosa indica.Described in technical terms its following parts.

(i) calyx (ii) androceium (iii) gyonecium (3)

(b) Differentiate between polysepalous and gamsepalous. (2)

Q12. Sketch and label the diagram of digestive system of cockroach. (5)

Q13. (a) Write the procedure to measure the blood pressure during rest and after exercise. (3)

(b) Write normal value of systolic and diasystolic blood pressure. (2)

Q14. (a) Following specimen were studied in the laboratory. Give one character of each to identify. (5)

(i) Euglena (ii) anaphase of mitosis. (iii) Fungi

(iv) stomata (v) male cone of pinus.

Assessment Scheme

For Chemistry 11th Part I Session 2012-13 & ONWARD

Time:3 : 30 hrs Total Marks:- 100

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				Allotted Marks 17				*Allotted Marks 44*				*Allotted Marks 24*				*Allotted Marks 15*
				Q. to be asked 17 Q. to be attempted 17				*Q. to be asked 33 Q. to be attempted 22*				*Q. to be asked 5 Q. to be attempted 3*				*Q. to be asked 5 Q. to be attempted 3*
				Time 20 Minutes				*Time 3 Hours & 10 Minutes*								
				K	***U***	***A***	***Total Marks***	***K***	***U***	***A***	***Total Marks***	***K***	***U***	***A***	***Total Marks***	
1	The Basic Concepts	10 %	12	1	1	-	2	1	1	1	6	-	-	½	4	
2	Experimental Techniques in Chemistry	4 %	5	1	-	-	1	-	1	1	4	-	-	-	-	
3	The Gases	9 %	11	-	-	1	1	-	2	1	6	-	½	-	4	Question No.10=5 marks
4	Liquids and Solids	11 %	14	1	1	-	2	-	2	2	8	-	-	½	4	Question No.11=5 marks
5	Atomic Structure	12 %	14	-	1	1	2	-	2	2	8	½	-	-	-	Question No.12 =5 marks
6	Chemical Bonding	11 %	14	-	1	1	2	1	2	1	8	½	-	-	4	
7	Thermo Chemistry	7 %	9	-	-	1	1	1	-	1	4	-	-	½	4	Question No.13 =5 marks
8	Chemical Equilibrium	10 %	12	1	1	-	2	1	1	1	6	-	½	-	4	Question No.14 =5 marks
9	Solutions	9 %	11	-	-	1	1	1	-	2	6	½	-	-	4	
10	Electro Chemistry	10 %	12	1	1	-	2	1	1	1	6	-	-	½	4	
11	Reaction Kinetics	7 %	9	-	-	1	1	-	-	2	4	-	1/2	-	4	
Total		100 %	123				17				66				40	25

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Model Paper Chemistry Objective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 17 Paper Code_____ Time Allowed: 20 minutes

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct: fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q.No	Question	A	B	C	D
1	Empirical formula of Glucose is	C_2HO	CH_2O	CHO_2	C_2H_2O
2	The number of molecules present in 9.0 gm of pure water are	3.01×10^{23}	6.02×10^{23}	9.03×10^{23}	1.20×10^{24}
3	The drying agent used in a desiccator is	Lithium Chloride	Sodium Chloride	Potassium Chloride	Calcium Chloride
4	The highest temperature at which a substance can exist as liquid, is called its	Absolute	Consolute	Critical Temperature	Transition Temperature
5	The boiling point of water at Mount Everest is	69^oC	74^oC	79^oC	84^oC
6	The existence of an element in more than one crystalline forms is known as	Isotropy	Aniosotropy	Entropy	Allotropy
7	The Scientist Chadwick in 1932 discovered	Proton	Neutron	Electron	Positron
8	The values of Quantum numbers for 3P orbital are	n = 1, l = 1	n = 2 , l = 1	n = 3 , e = 1	n = 3 , l = 2
9	The compound which follows octect rule for bonding is	$NaC\ell$	$BC\ell_3$	PF_5	SF_6
10	The Highest percentage of ionic character is in	HF	$HC\ell$	HBr	HI
11	The amount of heat absorbed when one mole of gaseous atoms are formed from the element under standard conditions is called	Enthalpy of Formation	Enthalpy of atomization	Enthalpy of reaction	Enthalpy of combustion
12	In Haber's process, the maximum yield of ammonia can be obtained by	Increasing Pressure	Decreasing pressure	Increasing volume	Increasing temperature
13	The salt dissolved in water forms a solution with pH greater than 7 is	$NaC\ell$	Na_2CO_3	$CuSO_4$	$NH_4C\ell$
14	The elevation of boiling point of 0.1 molal solution is	0.0052^oC	0.052^oC	0.52^oC	5.2^oC
15	The oxidation number of Oxygen in OF_2 is	+ 1	– 1	+ 2	– 2
16	In Lead Accumulator cell, the electrolyte used is	20 % H_2SO_4	30 % H_2SO_4	40 % H_2SO_4	50 % H_2SO_4
17	Sucrose is converted into Glucose and fructose by enzyme catalyst called	Invertase	Maltase	Urease	Zymase

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Model Paper Chemistry Subjective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 83 **Time: 3:10 hours**

SECTION ---------- I

2. Answer any Eight parts from the followings:- 8 × 2 = 16

(i) The removal of an electron from a neutral atom is an endothermic process. Explain with reason.
(ii) Actual yield is always less than theoretical yield. Give two reasons.
(iii) Calculate the no. of molecules present in 34 g of H_3PO_4.
(iv) Solvent extraction ferns the Distribution Law. Justify.
(v) Define sublimation. Give one example.
(vi) Calculate the value of General Gas constant in SI units.
(vii) Pilots feel uncomfortable breathing at higher attitude. Give reason.
(viii) Gases deviate from ideal behaviour at low temperature and high pressure. Give reasons.
(ix) Table salt is an insulator in solid state. Justify.
(x) Liquid crystals can be used in diagonosis of Cancer. Explain.
(xi) Evaporation is a cooling process. Give reason.
(xii) Graphite has slippery touch. Give reason.

3. Answer any Eight parts from the followings:- 8 × 2 = 16

(i) Positive rays are also called canal rays. Give reason.
(ii) The radius of first orbit of hydrogen atom is 0.529 A^o. Calculate the radius of 3rd orbit of hydrogen atom.
(iii) Explain stark effect.
(iv) Pressure can effect the production of Cathode Rays.
(v) Dipole moment of CO_2 is zero. While that of H_2O is 1.85 D. Explain.
(vi) Explain the geometry of H_2Se molecule.
(vii) Electronegativity increases from left to right in periodic table. Give reason.
(viii) Sketch the molecular orbital picture of O_2.
(ix) Enthalpy is a state function. Justify.
(x) Born Haber's Cycle is another form of Hess's Law. Justify.
(xi) Buffers are important in many areas of Chemistry. Justify.
(xii) Define Le-Chatelier's principle.

4. Answer any Six parts from the followings:- 6 × 2 = 12

(i) Give the applications of the solubility product.
(ii) Depression of freezing point is a colligative property. Justify.
(iii) $Na_2SO_4 . 10H_2O$ shows discontinuous solubility curve. Give reason.
(iv) What is the molality of a solution prepared by dissolving 5 g of Glucose in 250g of water.
(v) Electromotive force can be calculated from electrochemical series. Explain with reason.
(vi) Lead accumulators is a chargeable battery. Comment.
(vii) Calculate the oxidation number of chromium in; (a) K_2CrO_4 (b) $K_2Cr_2O_7$
(viii) Differentiate between average and instantaneous rate of reaction.
(ix) Explain auto-catalysis.

(P.T.O.)

SECTION ---------- II

Note: Attempt any three questions. **(8 x 3 = 24)**

5.(a) What are London forces. Explain various factors affecting it. 4

(b) Mg reacts with $HC\ell$ to give hydrogen gas. What is the minimum volume of $HC\ell$ solution (27 % by weight) required to produce 16.1g of H_2. The density of $HC\ell$ solution is 1.14 g/cm^3.
$Mg_{(s)} + 2HC\ell_{(aq)} \rightarrow MgC\ell_{2(aq)} + H_{2(g)}$ 4

6.(a) What is hybridization? Explain Sp^2 hybridization with example. 4

(b) State first law of thermodynamics and prove that $\triangle E = q_v$

7.(a) What is Plasma? How is it produced? Give its two applications. 4

(b) Describe Milikian's Oil Drop method for the measurement of charge of an electron. 4

8. (a) What is Standard Hydrogen Electrode (SHE)? How is it used for the measurement of electrode potential. 4

(b) Calculate the pH of a buffer solution in which 0.11 M CH_3COONa and 0.09 M. acetic acid solutions are present. K_a for CH_3COOH is1.85×10^{-5} . 4

9. (a) Explain Roult's Law when both components are volatile. 4

(b) Define order of reaction. How does half life method can be used for its determination. 4

SECTION ---------- III

Note: Attempt any three questions **(5x3=15)**

Q 10: In the laboratory, you are given 100 cm^3 of vinegar solution. How will you determine the amount of acetic acid in it practically? 5

Q 11: During the practical you need pure crystals of $NaC\ell$, but in laboratory table salt is provided contaminated with sand. How will you get the pure crystals of $NaC\ell$ from it? 5

Q 12: In Redox titrations, the molarity of $FeSO_4.XH_2O$ is found to be 0.1M. Calculate the number of water molecules (X) in it. 5

Q 13: You are given a solution containing 4g MOH dissolved per dm^3. Find out atomic mass of M volumetrically. 5

Q 14: Katrina has mixed the inks of different colours. You are given this mixture of inks. How will you separate and identify them. 5

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Assessment Scheme

For Computer Science 11th Part I Session 2012-13 & ONWARD

Time: 03:30 hrs Total Marks:- 100

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				Time Minutes 20				*Time 03:10 Hours*								
				K	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	
1	The Basic Concepts of IT	10 %	15	1	1	-	**2**	1	1	1	**6**	-	-	-	**8**	Question No.10=5marks
2	Information networks	10 %	15	1	-	1	**2**	1	2	-	**6**				**8**	
3	Data Communication	10 %	15	-	1	1	**2**	2	1	-	**6**	-	-	-	**8**	Question No.11=5marks
4	Security copyright & the law	10 %	15	1	-	1	**2**	1	1	1	**6**	-	-	-	**8**	
5	Hardware & system software	22 %	28	2	2	1	**5**	4	2	2	**16**	-	-	-	**8**	
6	Word processing	10 %	15	-	-	-	**-**	-	1	1	**4**	-	-	-	**-**	Question No.12=5marks
7	Spread sheet	10 %	15	-	-	-	**-**	1	-	1	**4**	-	-	-	**-**	
8	Applications & use of Computer	8 %	12	-	1	1	**2**	1	1	3	**10**	-	-	-	**-**	Question No.13=5marks
9	Operating system (Windows)	5 %	5	1	-	-	**1**	-	-	2	**4**	-	-	-	**-**	
10	Internet browsing & using email	5 %	5	-	1	-	**1**	1	-	1	**4**	-	-	-	**-**	Question No.14=5marks
Total		**100 %**	**150**				**17**				**66**				**40**	

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Q# 2 Ch # 1+2+3+6
Q#3 Ch # 5+8+9
Q#4 Ch # 4+7+10

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Model Paper Computer Science Objective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 17 **Paper Code_____** **Time Allowed: 20 minutes**

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Q No	Question	A	B	C	D
1	A graphic tablet is commonly activated by	Finger	Joystick	Stylus	Trackball
2	Laser printer is an example of	Non impact	Impact	Inkjet	Dot matrix
3	The top most layer of OSI model is	Network	Session	Transport	Presentation
4	Which of the following is ***NOT*** a category of network	LAN	MAN	WAN	NAN
5	Analog signal is measured in	Volt	Hertz	WATTS	Digits
6	An important property of fiber optic cable is	Noise	Refraction	Interference	Attenuation
7	The fly-by-wire system is used in	Medical field	Airline field	Education field	Banking field
8	Many banks provide the facility of	CAD	CAM	ATM	CBT
9	Each location in primary storage is assigned a unique	Data	Field	Name	Address
10	All are types of Memory **EXCEPT.**	DRAM	SRAM	FRAM	ROM
11	The step that obtains next instruction from memory is called	Read	Fetch	Decode	Get
12	The maximum **EXCEPT** units ALU has?	2	3	4	5
13	Expansion cards are inserted into	Peripheral devices	Slots	CPU	Back of the computer
14	All of the following are biometric techniques **EXCEPT**	Badge	Retina	Face	Palm print
15	Another name for anti-virus is	Vaccine	Worm	Trojan horse	DES
16	Software can be removed/installed through:	Control panel	Installer	Debugger	Linker
17	Web pages are connected to one another using:	Hyperlinks	http	Interlink	Multimedia

Model Paper Computer Science Subjective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 83 **Time: 3:10 hours**

SECTION ----------I

2. Answer any Eight (08) parts from the followings: 8×2=16

i) Differentiate between data and information.

ii) Information Technology has made our world a global village. Justify.

iii) Define barcode.

iv) Write some benefits of using computer networks.

v) Star topology is the best topology. Justify.

vi) Internet is a single network. Explain

vii) Define analog signal.

viii) State data representation in computer.

ix) Define ASCII code.

x) Explain virus activation in computers.

xi) Elaborate the importance of backup.

xii) Give some causes of virus.

3. Answer any Eight (08) parts from the followings: 8×2=16

i) Describe the function of Arithmetic and Logic Unit.

ii) State the components included in the computer architecture.

iii) Define DMA.

iv) Explain the work of a computer.

v) RAM is called volatile memory. Justify.

vi) Differentiate between RAM and ROM.

vii) Write down the names of different system buses.

viii) Explain I/O devices.

ix) Define word processor.

x) State the use of clipboard in MS Word.

xi) Elaborate the steps to identify rows and columns in MS Excel.

xii) List any four functions used in MS Excel.

(P.T.O.)

4. Answer any Six (06) parts from the followings: 6×2=12

i) Write some applications of ROBOT.

ii) Banks can benefit from the use of computers. Explain.

iii) Define video conferencing.

iv) Explain Computer Simulation.

v) Differentiate between CAD and CAM.

vi) A computer need operating system. Justify.

vii) Explain the statement Plug and Play.

viii) State the process of creating web pages.

ix) Describe search engine with examples.

SECTION ----------II

Note: Attempt any three questions from the followings. 8×3=24

5. Explain different types of Non-Impact Printers. 08

6. Discuss different Network Models. 08

7. Briefly describe different guided media. 08

8. Explain Fetch-Decode-Execute cycle of CPU. 08

9. State the methods to protect a computer system from Virus. 08

SECTION ----------III

(Practical Part)

Note: Attempt any three questions from the followings. 25

10. Write down the procedure to create a table in MS Word. Also write the Procedure to insert rows in table. 05

11. How chart is created in MS Excel? 05

12. Explain different ways for editing text in MS Word. 05

13. Write procedure for rotating and wrapping text in cell. 05

14. Write procedure to add printer in computer 05

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Assessment Scheme

For Physics 11th Part I Session 2012-13 & ONWARD

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Sr. No	*Chapters*	Weightage	Distribution of Marks	*M.C.Qs*				Short Answer Questions				*Essay Type Questions*				Questions relating to Practicals
				Allotted Marks 17				*Allotted Marks 44*				*Allotted Marks 24*				*Allotted Marks 15*
				Q. to be asked 17 *Q. to be attempted 17*				*Q. to be asked 33* *Q. to be attempted 22*				*Q. to be asked 5* *Q. to be attempted 3*				*Q. to be asked 12* *Q. to be attempted 6*
				Time 20 Minutes				*Q2= Chapter 1,2,3,6 = 12 SQ* *Q3= Chapter 4,5,7,8 = 12 SQ* *Q4= Chapter 9,10,11= 9 SQ*				*Time 3 Hours & 10 Minutes*				
				K	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	*K*	*U*	*A*	*Total Marks*	
1	Measurements	8 %	9	1	-	-	1	2	1	1	8	-	-	-	9	**Mechanics + Heat** (a) SQs. = 3+1 = 4 (b) Procedure of any one experiment. (c) Graph Base SQs. **Sound and light** (a) SQs = 2+2 = 4 (b) Procedure of any one experiment (c) Graph Base SQs.
2	Vector & Equilibrium	10 %	12	1	-	-	1	1	2	-	6	5	-	-	12	
3	Motion and force	11 %	13	1	1	-	2	1	1	2	8	-	-	3	13	
4	Work power & energy	8 %	10	1	-	-	1	2	1	-	6	-	-	3	10	
5	Circular motion	11 %	14	1	1	1	3	2	1	-	6	5	-	-	14	
6	Fluid dynamics	5 %	6	1	-	-	1	1	-	-	2	-	-	3	6	
7	Oscillations	8 %	10	1	-	-	1	1	2	-	6	-	-	3	10	
8	Waves	12 %	14	1	1	1	3	1	2	-	6	5	-	-	14	
9	Physical optics	8 %	10	1	-	-	1	2	1	-	6	-	-	3	10	
10	Optical instruments	8 %	10	1	-	-	1	1	1	-	4	5	-	-	10	
11	Heat & thermodynamics	11 %	15	1	1	-	2	2	1	1	8	5	-	-	15	
Total		100 %	123				17				66				40	25

Important Note:- 1) K= Knowledge. U= Understanding / Comprehension. A= Application & Analysis.

2) This scheme of Assessment is prepared as per 33% choice in short answer questions, essay questions & questions relating to practicals.

3) In order to promote the cause of concept based learning at least 10 % questions must be unseen or of daily life but relating to specified learning outcomes of Curricula & Syllabi. This portion will increase @ 10% annually but not more than 30%.

4) The questions relating to practical will be asked from the practical Note Book as per chapter were detail given in the curriculum and syllabi 2006.

5) The Practical will be conducted at the end of 12th Class which is mandatory to qualify for award of certificate.
The Practical assessment will be made in the form of grading as per following criteria.
A+= 90% & above, A=80% to 89%, B= 70% to 79%, C= 60% to 69%, D= 50% to 59%, E= 40% to 49%, F= Fail = 40% & below

Model Paper Physics Objective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 17 Paper Code_____ Time Allowed: 20 minutes

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q.1	QUESTIONS	(A)	(B)	(C)	(D)
1	The unit of Pressure in base units is	$Kg\,m^{-1}\,Sec^{-2}$	$Kg\,m\,Sec^{2}$	Kg m Sec^{-2}	$Kg\,m^{-1}\,Sec^{-1}$
2	The complete Equilibrium of a body implies that	$\sum F = 0$	$\sum Fx = 0$ $\sum Fy = 0$	$\sum F = o$ $\sum \tau = 0$	$\sum \tau = 0$
3	At highest point, the vertical component of velocity of Projectile becomes	Maximum	Zero	Minimum	$V_i \cos^{o}$
4	Impulse has the same unit as that of	Force	Energy	Mass	Linear Momentum
5	The Tidal Energy is due to gravitational Pull of the	Sun	Moon	Earth	Mars
6	The rotational K.E. of a disc is	$\frac{1}{2}mv^2$	$\frac{1}{4}mv^2$	$\frac{1}{6}mv^2$	$\frac{1}{8}mv^2$
7	Torque per unit Moment of Inertia is Equivalent to	Angular Velocity	Angular Acceleration	Inertia	Radius of Gyration
8	Escape velocity on surface of earth is 11.2 km/Sec^{-1}. The escape velocity on the Surface of another planet of same mass as that of earth but of 1/4times the radius of earth is	5.6km sec^{-1}	11.2km sec^{-1}	22.4km sec^{-1}	44.8km sec^{-1}
9	The SI unit of flow rate of fluid is	$m^3\,sec^{-1}$	$m^2\,sec^{-1}$	$m^2\,sec^{-2}$	$M^3\,sec^{-3}$
10	For a spring mass system arranged horizontally, the instantaneous displacement is	$x = x_0 \sin wt$	$x = x_0 \cos wt$	$x = x_0\,Sin^2\,wt$	$x = x_0 \cos^2 wt$
11	In the time required for the tuning fork to make one complete vibration, the wave in air will travel a distance equal to	$\lambda/4$	$\lambda/2$	λ	2λ
12	Velocity of sound is independent of	Temperature	Density	Pressure	Medium
13	Two tuning forks of frequencies 240Hz and 243Hz respectively are sounded together, the no. of beats produced per second is	Zero	‘2’	‘3’	‘4’
14	In young’s Double slit experiment, the position of Bright fringes are given by Formula,	$Y_m = m\frac{\lambda L}{d}$	$Y_m = m\frac{\lambda d}{L}$	$Y_m = m\frac{Ld}{\lambda}$	$Y_m = \frac{m\lambda}{Ld}$
15	Final image produced by the compound Microscope is	Real and inverted	Real and erect	Virtual and erect	Virtual and inverted
16	Carnot cycle consists of	Two steps	Three steps	Four steps	Five steps
17	The Internal energy of a piece of lead when beaten by a hammer will	Increase	Decrease	Remain constant	First increase then decrease

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Model Paper Physics Subjective

Intermediate Part – I (11th Class) Examination Session 2012-2013 and onward

Total marks: 83 **Time: 3:10 hours**

SECTION ---------- II

2. Write answers of any EIGHT questions. (8 x 2 = 16)

(i) Define dimension. Check the correctness of the equation v=f λ by the principle of Homogeneity of dimensions.

(ii) Briefly explain the two drawbacks to use the period of simple pendulum as a time standard.

(iii) Assess the total uncertainty in the final result of a timing experiment with the help of an example.

(iv) Determine the dimensions of pressure and density.

(v) Under what condition would a vector have components that are equal in magnitude.

(vi) Justify the statement "A body cannot rotate about its centre of gravity under the action of its own weight".

(vii) If $\vec{A}.\vec{B} = 0$, Can it be concluded that $\vec{A}$ *and* $\vec{B}$ are perpendicular to each other? Support your answer with a proof.

(viii) Why fog droplets appear to be suspended in air?

(ix) Discuss the sign of acceleration due to gravity for a cricket ball thrown upward, for its upward and downward motion.

(x) Can the velocity of an object reverse the direction when acceleration is constant? Justify with an example.

(xi) It is advisable to fasten the seat belts during a fast drive. Why is it?

(xii) Explain how would a bouncing ball behave in each of an elastic and inelastic collision with floor of room.

3. Write answers of any EIGHT questions. (8 x 2 = 16)

(i) When a rocket enters the atmosphere, why does its nose cone become very hot? Where does this heat energy come from?

(ii) State the work energy principle. Express it in equation.

(iii) While calculating the Absolute Gravitational potential energy, why is the distance between infinity and surface of earth is divided into very small steps.

(iv) What is meant by moment of Inertia? Give its significance.

(v) How is artificial gravity created in an Artificial satellites.

(vi) Centripetal force and centrifugal reaction are equal in magnitude but opposite in direction. Why these forces do not balance each other.

(vii) What happens to the period of simple pendulum if

(a) its length is doubled

(b) its suspended mass is doubled.

(viii) Show that in SHM, the acceleration is zero when velocity is greatest and the velocity is zero when the acceleration is greatest?

(ix) Why can we not realize an Ideal simple pendulum.

(x) What features do longitudinal waves have in common with transverse waves.

(xi) Why does sound travel faster in solids than in gases?

(xii) Justify the statement "Velocity of sound in a gas is independent of pressure of the gas"

4. Write answers of any SIX questions. (6 x 2 = 12)

(i) Define coherent sources of light. How two light beams can be made coherent.

(ii) How is the distance between interference fringes is affected by the separation between the slits of Young's double shit experiment?

(iii) How would you distinguish between unpolarized light and plane polarized light.

(iv) Name and explain any two of major components of a fiber optic communication system.

(v) How the resolving power of a compound microscope can be increased.

(vi) What happens to the temperature of the room, when an air conditioner is left running on a table in the middle of the room.

(vii) What is meant by tripple point of water. What is the value of Absolute temperature of tripple point of water.

(viii) Can the efficiency of a carnot engine be 100%? Justify your answer with proof.

(ix) Normal Human body temperature is 98.6 ^0F . Convert it into C^0 and K.

P.T.O.

SECTION II (Essay Type)

Note:- Attempt any three questions. (8 x 3 = 24)

5. (a) Define Rectangular components of a vector. How two vectors can be added by Rectangular component method. 1+4

(b) A ball is thrown with a speed of 30 m sec^{-1} in a direction 30^{o} above the horizontal. Determine the height to which it rises. 3

6.(a) What are geostationary orbits. Derive an expression for orbital radius of a Geostationary orbit 1+4

(b) How large a force is required to accelerate an electron ($m=9.1\times 10^{-31}\ kg$) from rest to a speed of $2x10^{7}$ $msec^{-1}$ through a distance of 5.0 cm. 3

7. (a) What is the limitation of Newton's formula for speed of sound in air. How did Laplace correct it. 1+4

(b) A simple pendulum is 50cm long. What will be its frequency of vibration at a place where g=9.8m sec^{-2} 3

8.(a) Explain the principle, construction and Magnifying power of a compound microscope with the help of a ray diagram . 1+2+2

(b) A light is incident normally on a grating which has 2500 lines/cm. compute the wavelength of a spectral line for which the deviation in 2^{nd} order is 15^{o} . 3

9.(a) Explain the carnot cycle and calculate the efficiency of a carnot heat engine. 2+3 = 5

(b) Water flows through a hose whose internal diameter is 1cm at a speed of 1m sec^{-1}. What should be the diameter of the nozzle if the water is to emerge at 21m sec^{-1}. 3

SECTION III (PRACTICAL)

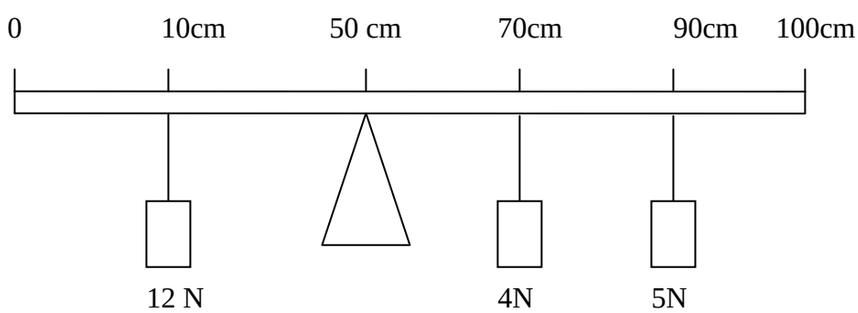
Note:- Give answers to any Four Questions. 4 x 2 = 8

10.(a) **(i)** How does the electronic timer measure time of free fall accurately.

(ii) A student measured the diameter of cylinder as 2.45 cm by a vernier calliper having least count +0.01 cm. But later on he observes a zero error in the instrument and finds zero of the vernier scale lies to the right of the zero of principal scale and 4^{th} division of vernier scale faces any division or the principal scale. Find the correct value of diameter of cylinder.

(iii) The wire of sonometer is stretched with a load of 4kg wt including the hanger and resonant length of wire is found to be 11cm by using a tuning fork having frequency 512 Hz. If diameter of the wire is doubled, find the resonant frequency of this wire for the same resonating length and same load.

(iv) Find clockwise torque from diagram.



(v) How does the angle of deviation vary with the angle of incidence in case of prism.

(vi) Does the critical angle of a transparent material varies with the colour of light.

(vii) What are the sources of error during the experimental determination of mechanical equivalent of Heat by electrical method.

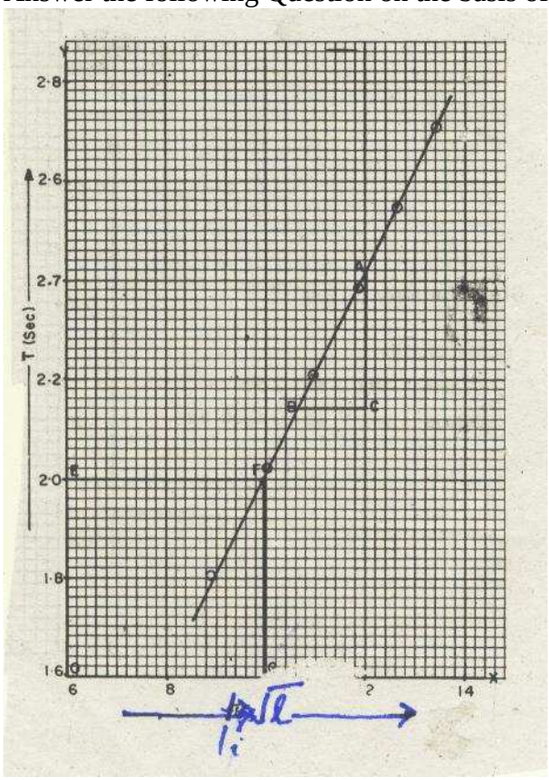
(viii) Design a table of observations/calculations to prove the law of length by using the vibrations in the string of sonometer.

10.(b) Write down the brief procedure to show experimentally that time period of simple pendulum is independent of amplitude . 3

OR

Write down the Brief procedure to determine experimentally the focal length of a convex lens by displacement method.

10.(c) Answer the following Question on the basis of graph drawn below.



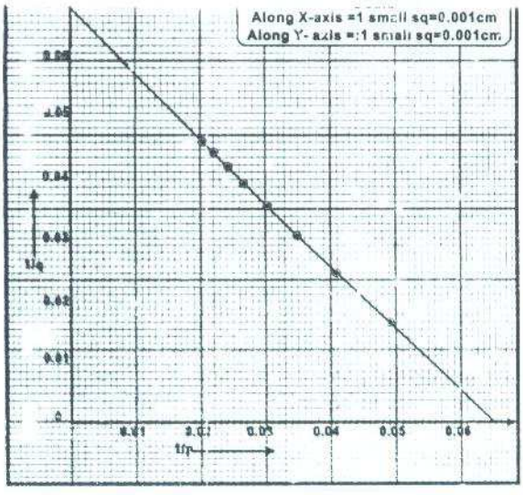
(i) What can you conclude from the graph 1

(ii) Find the value of "g" from the graph 2

(iii) Measure the length of second's pendulum from the graph 1

OR

Answer the following Question on the basis of graph drawn below.



(i) What is value of "P" corresponding to 1/q = os cm^{-1}

(ii) Using a set of values of 1/p and 1/q from evaluate foul length.