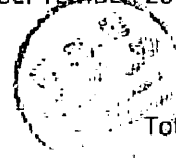


FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION SEPTEMBER 2016

FINALIZED SCHEME FOR VALUATION

PART III PART .A BOTANY CODE No. 417



Total Score : 30

Q.No.	Value points		Score	Total
1.	d) (i) and (iii)		1	1
2.	c) Mitochondria		1	1
3.	<ul style="list-style-type: none"> It is used in polishing. It is used in filtration of oils and syrups. 		½ ½	1
4.	<ul style="list-style-type: none"> Heart wood It is more durable ,thick and resistant to attacks of micro-organisms./any other quality of heart wood. 		½ ½	1
5.	Cyclic electron transport	Noncyclic electron transport	½ X4	2
	a)Only pigment system I is involved	b)ATP and NADP are formed		
	d)Only ATP is formed	c)Splitting of water occurs		
6.	Syngamy		½	2
	<ul style="list-style-type: none"> One of the male gamete /sperm fuses with the egg cell/female gamete/ovum to form a zygote. 		½	
	Triple fusion		½	
6.	<ul style="list-style-type: none"> Second male gamete/sperm fuses with diploid secondary nucleus(polar nuclei in the central cell) to form primary endosperm nucleus. 		½	2
	(Explanation of the two processes without the technical terms give full score 2)		½	
7	Dicot stem	Monocot stem	½+ ½ ½+ ½	2
	<ul style="list-style-type: none"> Open vascular bundles /with cambium Limited number of vascular bundles. Arranged in the form of a broken ring. Presence of sclerchymatous bundle cap . Xylem vessels are arranged in linearly. Polygonal shaped xylem vessels. 	<ul style="list-style-type: none"> Closed/without cambium. Numerous vascular bundles. Vascular bundles are arranged in the scattered manner. Presence of sclerenchymatous bundle sheath. Xylem vessels are arranged in Y or V in shape. Round shaped xylem vessels. Presence of protoxylem lacuna. 		
(Any two other differences from each type give full score 2) or diagram showing correct differences give full score 2				



8.	<ul style="list-style-type: none"> i) Coleoptile ii) Plumule iii) Radicle iv) Aleurone layer/protein sheath 	$\frac{1}{2} \times 4$	2										
9.	<ul style="list-style-type: none"> • Splitting of water molecules and accumulation of protons within the thylakoid lumen. • For the reduction of NADP^+ to $\text{NADPH} + \text{H}^+$, protons are removed from the stroma. • During electron transport, protons are removed from stroma and released into the lumen of thylakoid. (Any two events related to chemiosmotic theory of photosynthesis give full score 2/ diagrammatic representation of chemiosmosis during photosynthesis/ any two events related to proton gradient) 	1 1	2										
10.	Prokaryotes- 70 S Eukaryotes – 80S/70S Ribosomes are present in mitochondria and chloroplast /Any other related differences of ribosomes, give full score 1 <ul style="list-style-type: none"> • Protein synthesis 	$\frac{1}{2}$ $\frac{1}{2}$ 1	2										
11.	Facilitated diffusion <ul style="list-style-type: none"> i) Uniport ii) Antiport iii) Symport 	$\frac{1}{2} \times 4$	2										
12.	<ul style="list-style-type: none"> • The element must be essential for normal growth and reproduction. • Specific , not replaced by other element. • Directly involved in the metabolism of the plant. Mg(Magnesium)	$\frac{1}{2} \times 4$	2										
13	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">A</th> <th style="width: 50%; text-align: center;">B</th> </tr> </thead> <tbody> <tr> <td>a)Stomata closure</td> <td>v) ABA</td> </tr> <tr> <td>b)Citric acid</td> <td>iv)Kreb's cycle</td> </tr> <tr> <td>c)Glycolysis</td> <td>i) Cytoplasm</td> </tr> <tr> <td>d)Heterophylly</td> <td>ii)Plasticity</td> </tr> </tbody> </table>	A	B	a)Stomata closure	v) ABA	b)Citric acid	iv)Kreb's cycle	c)Glycolysis	i) Cytoplasm	d)Heterophylly	ii)Plasticity	$\frac{1}{2} \times 4$	2
A	B												
a)Stomata closure	v) ABA												
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d)Heterophylly	ii)Plasticity												
14.	Auxin- <ul style="list-style-type: none"> • Apical dominance • Root initiation • Prevention of premature fruit and leaf fall • Promote abscission of old mature leaves and fruits Gibberellin <ul style="list-style-type: none"> • Bolting • Delay of senescence • Stem elongation • Leaf expansion in tobacco Any other related 2 functions of auxin and gibberellin- give full score 2	$\frac{1}{2} \times 4$	2										



15.	a) Diplotene b) Pachytene c) Zygotene d) Diakinesis Significances- <ul style="list-style-type: none"> • Formation of haploid gametes. • Increase genetic variability/ leads to evolution • Conservation of specific chromosome number in successive generation of a species Reduction in the number of chromosomes OR any two other significances	$\frac{1}{2} \times 4$ $\frac{1}{2}$ $\frac{1}{2}$	3
OR 16.	OR A-Metaphase <ul style="list-style-type: none"> • Formation of spindle apparatus./ Metaphase plate • Chromosomes are arranged at the equator of spindle apparatus • Spindle fibres are attached to kinetochore of chromosome (any two other correct features of metaphase.) B-Anaphase <ul style="list-style-type: none"> • Centromere split and chromatids separate. • Movement of daughter chromosomes towards the opposite poles of the cell any two other correct features of anaphase)	OR $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	
17.	<ul style="list-style-type: none"> • Every part of the plant take care of its own gas exchange needs and there is very little transport of gases from one part of the plant to another. • Plant do not have great demands for gaseous exchange, the rate of respiration is far lower than that of animals. The availability of oxygen is not a problem, because oxygen is released within the cell during photosynthesis. • The distance for which the gases diffuse, even in large, bulky plants is not great as living cells in a plant are located quite close to the surface of the plant. • Presence of stomata and lenticels on the surface of plants • Presence of loosely arranged cells with inter cellular spaces (Any other related points) 	1 1 1	3
OR 18.	OR <ul style="list-style-type: none"> • Glucose- 6-phosphate • Fructose-1,6-biphosphate / Fructose-1,6-bisphosphate • 1,3- bisphosphoglyceric acid/1,3- bisphosphoglyceric acid • 2-phosphoglyceric acid • Phosphoenol pyruvic acid • Pyruvic acid 	OR $\frac{1}{2} \times 6 = 3$	
Total Score		30	30

1

FIRST YEAR HIGHER SECONDARY EXAMINATION SAY/IMP SEPTEMBER 2016

(Scheme of Valuation)

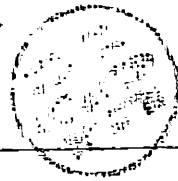
Subject : Zoology

Code No. 417 - Part B

Qn. No		Scoring Indicators	Split Score	Total Score
1,		Zoological park / Zoo	1	1
2,	a,	Echinodermata	1	2
	b,	Locomotion, respiration, excretion, capture or transport of food, digestion	$\frac{1}{2} \times 2$	
3,	a,	Cnidoblast / Cnidocyte / stinging cell	$\frac{1}{2}$	1
	b,	Cnidaria / Coelenterata	$\frac{1}{2}$	
4,	a,	Chondrichthyes / cartilaginous fish	$2 \times \frac{1}{2}$	3
		Osteichthyes / Bony fishes		
	b,	Any 2 relevant differences	$4 \times \frac{1}{2}$	
5,	a,	A - Gall bladder B - Duodenum C - Pancreas	$3 \times \frac{1}{2}$	2
	b,	Emulsification / activation of lipase / fat digestion / neutralization of food	$1 \times \frac{1}{2}$	

1/3

2



Qn.No	Scoring Indicators	Split Score	Total Score
6,	Uric acid is least toxic, conservation of water / minimum water loss, terrestrial adaptation (any 2)	2x1	2
7,	a, Bicarbonates b, Carbonic anhydrase	1 1	2
8;	a. A - Formed elements / Blood cells B - WBC / Leucocytes C - Agranulocytes D - Eosinophils b. Blood clotting / coagulation OR a, Atrial depolarisation / contraction / systole b, Ventricular depolarisation / contraction / systole c, Ventricular repolarisation / relaxation / diastole	4x 1/2 1 3x1	3 3
9,	a, clavicle, scapula b, Acetabulum	2x 1/2 1	2
10,	A - insulin B - Thymus C - water reabsorption D - Progesterone / Estrogen	4x 1/2	2

2/3

3



Qn.No	Scoring Indicators	Split Score	Total Score
11,	b, cone cells only	1	1
12,	a, ii - cerebellum iii - hypothalamus	2x1/2	2
	b, Medulla	1	
13,	Triglyceride / Fatty acids and glycerol	1	1
14, a,	A - Dense regular connective tissue		
	B - Dense irregular connective tissue	2x1/2	2
	b, skin	1	
15,	a, Protein / Polypeptide		
	b, Ester bond / phosphodiester bond	2x1	2
16,	Ommatidia - sense organ	2x1	2
	Hepatic caecae - Digestive gland		

3/3