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FOR HARYANA CLASS 11 PREPARATION

HBSE Class 11 Sample Paper 2027 Biology Marking Scheme

EXAM	YEAR	TYPE	SUBJECT
Haryana Class 11	2027	Answer Key	Biology

BSEH MARKING SCHEME

(Academic)

CLASS- XI Biology (Model Paper 2026-27) Code: A

- **The answer points given in the marking scheme are not final. These are suggestive and indicative. If the examinee has given different, but appropriate answers, then appropriate marks should be given.**

Q. No.	Part no.	Answers	Marks	Total Marks
1.	---	b) Palmately compound	1	1
2.	---	a) Marginal	1	1
3.	---	c) 0	1	1
4.	---	d) Plasmodesmata and middle lamella	1	1
5.	---	c) Alanine	1	1
6.	---	d) RuBP	1	1
7.	---	b) Succinate dehydrogenase	1	1
8.	---	d) 13%	1	1
9.	---	c) Birds	1	1
10.	---	Solanaceae	1	1
11.	---	Inhibition, inhibitor	½ + ½	1
12.	---	Apical dominance	1	1

<table>
<tr><td>13.</td><td>---</td><td colspan="2">formation of meristems – interfascicular cambium and cork cambium from fully differentiated parenchyma cells.</td><td>1</td><td>1</td></tr>
<tr><td>14.</td><td>---</td><td colspan="2">The electrical potential difference across the resting plasma membrane of a neuron is called as the resting potential.</td><td>1</td><td>1</td></tr>
<tr><td>15.</td><td>---</td><td colspan="2">corpus callosum</td><td>1</td><td>1</td></tr>
<tr><td>16.</td><td>---</td><td colspan="2">b) Both A and R are true, and R is not the correct explanation of A.</td><td>1</td><td>1</td></tr>
<tr><td>17.</td><td>---</td><td colspan="2">a) Both A and R are true, and R is the correct explanation of A.</td><td>1</td><td>1</td></tr>
<tr><td>18.</td><td>---</td><td colspan="2">c) A is true but R is false.</td><td>1</td><td>1</td></tr>
<tr><td rowspan="5">19.</td><td rowspan="3"></td><td>Root hairs</td><td>Trichomes</td><td></td><td rowspan="5">2</td></tr>
<tr><td>These are unicellular.</td><td>These are multicellular</td><td>1</td></tr>
<tr><td>Help absorb water & minerals</td><td>Help in preventing water loss due to transpiration.</td><td>1</td></tr>
<tr><td colspan="3">Or</td></tr>
<tr><td rowspan="2"></td><td colspan="2">Palisade parenchyma;
near to adaxial epidermis</td><td>½
½</td></tr>
<tr><td colspan="2">Spongy parenchyma;
near to abaxial epidermis</td><td>½
½</td></tr>
</table>

20.		Small specialised roots in some gymnosperms which are associated with N_2- fixing cyanobacteria.	1	2
		e.g. *Cycas*	1	
21.		Echinodermata	½	2
		i) locomotion	½	
		ii) capture and transport of food	½	
		iii) respiration	½	
22.		*Selaginella*	1	2
		Salvinia	1	
23.		PGAL: 3-phosphoglyceraldehyde	1	2
		BPGA: 1, 3-bisphosphoglycerate	1	
	Or			
		NADH: four	1	
		$FADH_2$: one	1	
24.		i) Sound producing vocal sacs only in males	1	2
		ii) A copulatory pad on the first digit of the fore limbs only in males	1	
		i) high pO_2	½	2
		ii) low pCO_2	½	
		iii) lesser H^+ concentration	½	
		iv) lower temperature	½	

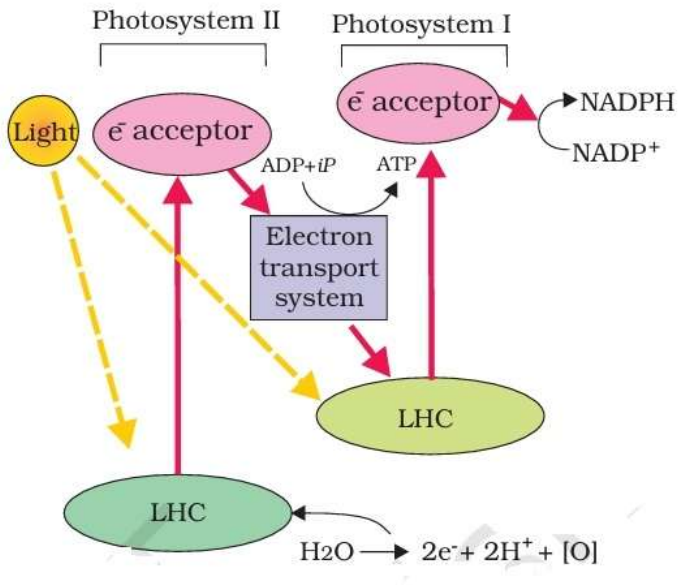
	Or			
		It is an auto immune disorder affecting neuromuscular junction,	1	
		leading to fatigue, weakening and paralysis of skeletal muscle.	1	
26.		Neutral amino acids: glycine/ alanine/ valine	Any two ½ + ½	3
		Aromatic amino acids: Tyrosine/ phenylalanine/ tryptophan	Any two ½ + ½	
		Polysaccharides: Cellulose/ starch/ glycogen/ inulin	Any two ½ + ½	
27.	i)	Golgi apparatus	1	3
	ii)	Golgi apparatus	1	
	iii)	Chloroplasts	1	
	Or			
		Glycocalyx	1	
		Cell wall	1	
		Plasma membrane	1	
28.		In some animals the body is externally and internally divided into segments with a serial repetition of at least some organs and the phenomenon is known as metamerism.	1	

		Annelida/ Arthropoda/ Chordata	Any two ½ + ½	3
		Porifera/ Cnidaria/ Ctenophora/ Platyhelminthes/ Aschelminths/ Mollusca/ Echinodermata	Any two ½ + ½	
		Or		
		Lungs: Air sacs connected to lungs supplement respiration.	1	
		Fore limbs: These are modified into wings.	1	
		Bones: long bones are hollow with air cavities.	1	
29.	A	Aleurone layer	½	3
	B	Endosperm	½	
	C	Scutellum	½	
	D	Coleoptile	½	
	E	Plumule	½	
	F	Radicle	½	
30.		PCT is lined by simple cuboidal brush border epithelium which increases the surface area.	1	3
		PCT helps to maintain the pH and ionic balance of the body fluids by **selective secretion of hydrogen ions and ammonia** into the filtrate and by **absorption of HCO_3^-** from it.	1 1	

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31.	i)	The viruses are non-cellular organisms that are characterised by having an inert crystalline structure outside the living cell.	1	4
	ii)	Cholera/ typhoid/ tetanus/ citrus canker Or Monera Protista	Any two ½ + ½ ½ ½	
	iii)	a) Some fungi like mushrooms are edible. b) Fungi like yeast are used to make bread and beer. c) Some fungi like *Penicillium* are source of antibiotics.	Any two, 1 mark each	
32.	i)	Neutrophils/ eosinophils/ basophils/ lymphocytes/ monocytes	Any four, ½ mark each	4
	ii)	Because of absence of antigens on RBCs in blood group 'O'.	1	
	iii)	It can be avoided by administering anti-Rh antibodies to the mother immediately after the delivery of the first child. Or Globulins are involved in defense mechanisms of the body.	1 1	

33.	i)		Gap 1 phase	½	5
			the cell is metabolically active and continuously grows but does not replicate its DNA.	½	
	ii)		Synthesis phase	½	
			The period during which DNA synthesis or replication takes place.	½	
	iii)		Gap 2 phase	½	
			Proteins are synthesised in preparation for mitosis	½	
	iv)		Mitosis phase	½	
			The M Phase represents the phase when the actual cell division occurs.	½	
	v)		Quiescent stage	½	
			Cells in this stage remain metabolically active but no longer proliferate unless called on to do so	½	
	Or				
	a)	i)	Metaphase I of meiosis I	1	
		ii)	Anaphase I of meiosis I	1	
		iii)	Diplotene of Prophase I	1	

	b)	i) conservation of specific chromosome number of each species is achieved across generations in sexually reproducing organisms		1	
		ii) It also increases the genetic variability in the population of organisms from one generation to the next which is important for the process of evolution.		1	
34.		**C_3 Plants**	**C_4 Plants**		
	i)	Mesophyll Cells	Bundle sheath cells	1	
	ii)	PGA	OAA	1	
	iii)	Mesophyll Cells	Bundle sheath cells	1	
	iv)	20-25 ^{0}C	30-45 ^{0}C	1	
	v)	High	Negligible	1	
		Or			
	a)			½ mark each for any 6 correct labels	5

	b)		i) Water stress causes the stomata to close hence reducing the CO_2 availability.		1	
			ii) Water stress makes leaves wilt, thus, reducing the surface area of the leaves.		1	
35.	a)		macrophages and leucocytes		½ + ½	
	b)		It helps us in removing dust particles and some of the foreign substances inhaled with the air.		1	
	c)		Myoglobin content is high in some of the muscles which gives a reddish appearance.		1	
	d)	i)	6		½	
		ii)	24		½	
		iii)	2		½	
		iv)	16		½	5
			Or			
	Sr. No.		Hormone	Source Gland	Associated disease	
	i)		Insulin	**Pancreas**	**Diabetes mellitus**	½ + ½
	ii)		**Thyroxine**	**Thyroid**	Grave's Disease	½ + ½
	iii)		ADH	**Hypothalamus/ posterior pituitary**	**Diabetes insipidus**	½ + ½
	iv)		**Corticoids**	**Adrenal**	Addison's disease	½ + ½
	v)		Growth hormone	**Anterior pituitary**	**Dwarfism/ Acromegaly**	½ + ½