BIOLOGY (044) CLASS XI SAMPLE PAPER

Marking Scheme

(Marking scheme and Hints to solution)

Note: (Any other relevant answer not given here in but given by the candidate be also suitably awarded)

<table>
<tr><th>Q.No.</th><th>Value Points / Key points</th><th>Marks allotted to each value point/key point</th><th>Total marks</th></tr>
<tr><td>1</td><td>(d) Anaphase II</td><td>1</td><td>1</td></tr>
<tr><td>2</td><td>(b) A-iii, B-iv, C-i, D-ii</td><td>1</td><td>1</td></tr>
<tr><td>3</td><td>(c) Salvia and Mustard</td><td>1</td><td>1</td></tr>
<tr><td>4</td><td><table><tr><td></td><td>Ammonotelic</td><td>Ureotelic</td><td>Uricotelic</td></tr><tr><td>(b)</td><td>Aquatic amphibians</td><td>Frog, horse</td><td>Grasshopper, eagle</td></tr></table></td><td>1</td><td>1</td></tr>
<tr><td>5</td><td>(b) bacteria and cytoplasm of human cell</td><td>1</td><td>1</td></tr>
<tr><td>6</td><td>(b) A – Pseudocoelomate; B – Acoelomate; C – True coelomate</td><td>1</td><td>1</td></tr>
<tr><td>7</td><td>(c) group of organisms belonging to related families</td><td>1</td><td>1</td></tr>
<tr><td>8</td><td>(d) Euglena belonging to Kingdom Protista acts like a predator of small organisms in the absence of light.</td><td>1</td><td>1</td></tr>
<tr><td>9</td><td>(c) During spore formation</td><td>1</td><td>1</td></tr>
<tr><td>10</td><td>(a) A-Ilium, B- Ischium, C- Femur, D- Tibia, E- Fibula</td><td>1</td><td>1</td></tr>
<tr><td>11</td><td>(d) Cerebellum- maintains posture, regulates intersensory association and communication</td><td>1</td><td>1</td></tr>
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12	(d) mother is Rh- and foetus is Rh+	1	1
13	c. A is true but R is false.	1	1
14	c. A is true but R is false.	1	1
15	b. Both A and R are true and R is not the correct explanation of A.	1	1
16	a. Both A and R are true and R is the correct explanation of A.	1	1

17	Spirogyra- Pigment- chla,b Stored food- Starch *Gelidium*- Pigment- phycoerythrin, chla,d Stored food- Floridean starch	½ ½ ½ 1/2	2
18	a. Collagen b. Enzyme c. Insulin (or any other protein hormone) d. Enable glucose transport into cells	½ ½ ½ ½	2
19	(i) Definition/ any difference (ii) Difference in vasa recta. (Any one difference) Difference in loop of Henle OR Difference Motor end plate- Neuron and muscle Chemical Synapse- Neuron and neuron Similarity Neurotransmitter/ Acetyl choline	1 1 1 1	2

20	Potato spindle —Causative agent - Viroid Tobaaco mosaic - Virus Any one difference in structure	½ ½ 1	2
21	(a) Cotton and peanut (b) RuBisCO	½+ ½ 1	2
22	• Axonal membrane impermeable to Na^+ ⟹ High conc. of Na^+ outside axon • More permeable to K^+ ⟹ High conc. of K^+ inside axon • Na-K pumps transfer 3 Na^+ outside for 2 K^+ inside • Axon membrane is negatively charged on the inner surface and positively charged on the outer surface. Therefore, polarised	½ ½ ½ + ½ ½ + ½	3
23	(a) X- Presence of enzyme (b) by reducing activation energy (c) Exothermic, energy of product less than that of substrate.	1 1 ½+½	3
24	● (a) Plasmogamy -Elaborate ● (b) Karyogamy-Elaborate ● (c) Meiosis –Elaborate	½+½ ½+½ ½+½	3
25	(a) Dorsiventral leaf- contain well defined dorsal and ventral sides/mesophyll differentiated into palisade and spongy parenchyma Isobilateral leaf- similar in appearance on both the sides/Mesophyll is not differentiated into palisade and spongy parenchyma. (b) A - hypogynous	1 1 ½	

	B- Epigynous	½	3
26	(a)Apical bud removed, lateral bud grows (b) promotes female flowers, increases yield (c) Apple fruits elongates/shape improved fruits can be left on trees longer/ extending market period	1/2+½ ½+½ ½ 1/2	3
27	i) Echinodermata- locomotion/ respiration/ food capture (any) (ii) Mollusca- feeding (iii) Annelida - locomotion	½ + ½ ½+½ ½+½	3
28	(a) ER, Golgi complex, lysosomes and vacuoles. (b) Functions are coordinated.	½ x 4 1	3
29	(a) Axile. b) Valvate OR Epipetalous c) $\oplus \male K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G}_{(2)}$	1 1 2	4
30	(a) Nodal tissue/SA node (b) Atrial excitation OR Ventricular repolarisation (c) By counting no. of QRS complexes in the given time period. 6 minutes - 12 QRS 60 minutes - 12 X 10= 120 QRS/ heart beat rate	1 1 1 ½ ½	4
31	a.Meromyosin b. Thin filament (diagram)	1 ½	

	Labelling: Troponin Tropomyosin F actin c. Ca ions: binds to troponin subunit of actin filament, unmask active site for myosin ATP: binds to myosin head, which forms cross bridge with actin active site OR a. Tetraiodothyronine/ Thyroxine, Triiodothyronine b. Fig 19.5, Pg 249, NCERT Textbook Class XI c. Hypothyroidism -defective development & maturation of baby/stunted growth/ mental retardation/ low IQ (any two)	½ ½ ½ ½+½ ½+½ OR ½+½ ½ (diag.) ½X4 (labels) ½ ½+½	5
32	a. Glycolysis b. b. Fig 12.1, Pg No 156, NCERT Text book Class XI OR a. Calvin Pathway C3 - mesophyll cells C4 - Bundle sheath cells b. Fig 11.8, Pg no. 144, NCERT Textbook Class XI	½ 4½ Or 1 ½ ½ 3 (1 mark for each step)	5
33	a.Prophase: 1. Chromosomal material condenses 2. Nucleolus, Golgi, ER disappear 3. Nuclear membrane begins to disappear. Telophase: 1. Chromosome lose their identity 2. Nucleolus, Golgi, ER reform 3. Nuclear membrane reforms b. 1- 2-4-8-16-32-64-128-256	1 X 3 1	

	8 divisions OR a.A- Anaphase of mitosis, Sister chromatids separate B- Anaphase I of meiosis, Homologous chromosomes separate C- Anaphase II of meiosis, Sister chromatids of dyad separate b. A- 2n, 4 chromosomes B - n, 2 chromosomes	1 OR ½+½ ½+½ ½+½ ½+½ ½+½	5