महाराष्ट्र राज्य पाठ्यपुस्तक निर्मिती व अभ्यासक्रम संशोधन मंडळ

'बालभारती', सेनापती बापट मार्ग , पुणे-४११००४.

फोन : ०२०-२५६५९४६५/६६/६७/६८

फॅक्स क्र : ०२०-२५६५६०४६

## \* शुद्धिपत्रक \*

विषय: इयत्ता ११ वी 'जीवशास्त्र' विषयाच्या पाठ्यपुस्तकामधील आशयासंदर्भात असलेल्या दुरुस्त्यांबाबत.....

इयत्ता अकरावी, बारावी (उच्च माध्यमिक स्तर) पुनर्रचित अभ्यासक्रमानुसार शालेय वर्ष २०१९-२० पासून इयत्ता अकरावीची नवीन पाठ्यपुस्तके तयार करून निर्धारित करण्यात आलेली आहेत. इयत्ता अकरावीसाठी तयार करण्यात आलेल्या 'जीवशास्त्र' विषयाच्या पाठ्यपुस्तकामधील आशयासंदर्भातील दुरुस्त्यांचे शुद्धिपत्रक पाठ्यपुस्तक मंडळाच्या www.ebalbharati.in या संकेतस्थळावर उपलब्ध करून देण्यात आलेले आहे.

सदर पाठ्यपुस्तकामधील आशय दुरुस्त्यांच्या शुद्धिपत्रकाची अध्ययन/अध्यापनाच्या अनुषंगाने इयत्ता अकरावीच्या शिक्षक/विद्यार्थी/अनुषंगिक घटक यांनी नोंद् घ्यावी.

(विवेक गोसावी)

क्रमांक : ह/शास्त्र/ ५०१२ दिनांक : २०.१०.२०२१ **संचालक,** पाठ्यपुस्तक मंडळ, पुणे ४

# **Corrigendum : Standard XI BIOLOGY Textbook Edition 2021**

| Page<br>No. | Column<br>Left (L)/ Right(R) | Heading/Paragraph                  | Line No.                  | Printed Matter                                  | Correction  |
|-------------|------------------------------|------------------------------------|---------------------------|---|---|
| 1           | L                            | 1.1 (D)                            | Line 1                    | Life has to continue hence the                  | Life has to continue (perpetuate)<br>hence the                    |
| 1           | L                            | 1.1 (E)                            | Line 2 addition           | Metabolism, the organism dies                   | Metabolism, the organism dies i.e. does not remain immortal.      |
| 1           | R                            | 1 <sup>st</sup> para               | 2 <sup>nd</sup> last line | These includes herbaria                         | These include herbaria  |
| 1           | R                            | 1 <sup>st</sup> para               | Last line                 | museums biodiversity parks, etc                 | museums, zoological parks,<br>biodiversity parks, key etc.        |
| 1           | R                            | 1.2 Herbarium                      | Line 7, 8                 | pressed, treated and mounted<br>on preserve it. | is pressed, treated variously and<br>then mounted on preserve it. |
| 2           | L                            | 1 <sup>st</sup> para               | Line 4                    | are recorded on the same                        | are also recorded on the same                                     |
| 2           | L                            | 1.3 Botanical<br>Gardens           | Line 2                    | plants of different                             | living plants of different  |
| 2           | L                            | 1.3 Botanical<br>Gardens           | Line 4                    | scientific and systematic in a in vivo          | scientific and systematic way in a in vivo                        |
| 2           | L                            | 1.3 Botanical<br>Gardens           | Line 5                    | plants are labeled. The label-<br>board         | plants are labelled. The label-board                              |
| 2           | -                            | Figure 1.2 title                   | -                         | Botanical Gardens Kolkata 255 years             | Botanical Garden: Kolkata more than 255 years                     |
| 3           | L                            | Conservation of<br>Biodiversity    | Line 8                    | have resulted in loss of biodiversity           | have resulted in a loss of biodiversity                           |
| 3           | L                            | Conservation of<br>Biodiversity    | Last line                 | can affect entire ecosystem.                    | can affect the entire ecosystem.                                  |
| 3           | L                            | 1.4 Museum<br>1 <sup>st</sup> para | Line 1                    | Museums are the places where                    | Museums are the repositories where                                |
| 3           | L                            | 1.4 Museum<br>1 <sup>st</sup> para | Last line                 | in dried form are also kept in                  | in dried form are also exhibited in                               |

#### Chapter – 1. Living World

| 3 | L | 1.4 Museum                                   | Para 1, Last<br>line 2           | animals, insect boxes in museums.      | animals, insect boxes etc. in museums.     |
|---|---|--|----------------------------------|--|--|
| 3 | R | 1.5 Zoological Parks<br>1 <sup>st</sup> para | Last line                        | and behavior of animals,               | and behaviour of animals.                  |
| 4 | L | Above the box                                | Line 4, 5                        | organisms and maintain                 | organisms and maintaining                  |
| 4 | L | Above the box                                | Line 5                           | on planet earth. study of biodiversity | on planet earth, the study of biodiversity |
| 4 | L | Know the scientists                          | Last line                        | has been named after his name.         | has been named after him.                  |
| 4 | - | Find out                                     | 3 <sup>rd</sup> bullet<br>line 2 | Eriocanlon spp?                        | Eriocaulon spp.                            |
| 4 | R | 1.7 Key                                      | Line 2                           | and animals. The keys                  | and animals. The dichotomous keys          |
| 4 | R | Do you know?                                 | Line 2                           | conserved on the name                  | conserved in the name                      |
| 4 | R | Do you know?                                 | Line 3                           | sacred grove these also                | sacred grove. These are also               |
| 4 | R | Internet my friend                           | Point 2                          | Collect information                    | Gather information                         |
| 5 | L | Q. 1 MCQ                                     | B - caption<br>line 1            | is strictly seasonal plant.            | is strictly a seasonal plant.              |
| 5 | L | Q. 2   | Line 3                           | reference to characteristics           | reference to their characteristics         |
| 5 | L | Q. 3 A                                       | Line 2                           | has acclimatised humbolt               | has acclimatised the humbolt               |
| 5 | R | Q. 4 Write short<br>notes.                   | А                                | Role of human being in                 | Role of the human beings in                |

| Page<br>No. | Column<br>Left (L)/ Right(R) | Heading/Paragraph                              | Line No.           | Printed Matter  | Correction  |
|-------------|------------------------------|--|--------------------|---|---|
| 6           | L                            | 2.1 Systematics,<br>Taxonomy :                 | Line 4             | and nomous  | and nomos   |
| 6           | L                            | 2.2 Classification                             | Line 4             | established plan. This  | established scheme or plan.<br>This   |
| 6           | L                            | 2.2 Artificial                                 | Line 2             | few easily observable and   | very few easily observable and  |
| 6           | R                            | Phylogenetic                                   | Line 3             | prantl classification   | Prantl's classification   |
| 6           | R                            | 2.3 Three domain of life, 1 <sup>st</sup> para | line 5             | which led to formation of   | which led to appearence of  |
| 6           | R                            | 2.3 Three domain of life, 2 <sup>nd</sup> para | Last line          | from Archaea in structure of  | from Archaea in the structure of  |
| 7           | L                            | 2.4 Chemotaxonomy                              | Line 3             | certain compounds present among   | certain compounds found among   |
| 7           | L                            | 2.5 Numerical taxonomy                         | Last two<br>lines  | first proposed by Sokel and Sneath in 1963.                                 | first proposed by R. Sokal and P. Sneath in 1963.                                 |
| 7           | L                            | 2.6 Cladogram                                  | Line 3             | of life is a cladogram. It  | of life is a cladogram (Fig 2.1). It  |
| 7           | R                            | -  | Line 2 from<br>top | as well as understanding ecological   | as well as understanding the ecological   |
| 7           | R                            | 2.9 Taxonomic                                  | Line 6             | all categories together constitute the                                      | all categories in their increasing or retrogressive order together constitute the |
| 8           | L                            | 2.11 species                                   | Line 2             | natural taxonomic unit, ranking   | lowest natural taxonomic unit, ranking  |
| 8           | L                            | 2.11 Genus                                     | Line 1, 2          | Genus is a taxonomic rank or<br>category larger than species<br>used in the | Genus is a higher taxonomic rank or category than species used, in the            |
| 8           | L                            | 2.11 Genus                                     | Line 6             | characters but then do not  | characters but they usually do not  |

Chapter – 2. Systematics of Living Organisms

| 8 | L | 2.11 Genus                         | Line 8 to11               | genus <i>Panthera</i> . They have   | genus <i>Panthera</i> yet are different from each other                                  |
|---|---|------------------------------------|---------------------------|---|--|
| 8 | L | 2.11 Family                        | 2 <sup>nd</sup> last line | family felidae but dog belongs  | family Felidae however dog belongs   |
| 8 | R | Cohort/Order                       | Line 5, 6                 | Order thus is a step above family inhierarchy                                     | Order thus is a rank higher to family<br>in the taxonomic hierarchy.                     |
| 8 | R | Class                              | Line 3                    | distinctive name. A group of  | distinctive name. It is a group of   |
| 8 | R | Class                              | Line 6                    | assemblage of closly allied orders.   | assemblage of closely related or allied orders.  |
| 8 | R | Division/Phylum                    | Title                     | Division/Phylom   | Division/Phylum  |
| 8 | R | Division/phylum                    | Line 2                    | category composed of related classes  | category composed of closely related classes   |
| 8 | R | Sub-Kingdom                        | Line 4                    | will the sub-kingdom phanerogams  | will form the sub-kingdom phanerogams  |
| 8 | R | Kingdom<br>2 <sup>nd</sup> para    | Line 4, 5                 | in more scientific manner.  | in more scientific and precise manner.   |
| 8 | R | Kingdom<br>2 <sup>nd</sup> para    | Last line                 | characters go on decreasing   | characters (features) go on<br>decreasing  |
| 9 | L | 2.12 Nomenclature                  | Line 2                    | must possess a name. it may   | must possess a name which it may   |
| 9 | L | Vernacular<br>2 <sup>nd</sup> para | Line 2                    | limited usage and for universal   | limited usage but for universal  |
| 9 | L | Scientific Names                   | Lines 1 to 4              | To overcome the common<br>names, scientist have given<br>all the known organisms. | Scientist have given all the<br>known organisms, to overcome the<br>common names.        |
| 9 | L | Scientific Names                   | Lines 8                   | nomenclature.   | nomenclature where scientific name consists of two epithets (parts).                     |
| 9 | R | Below the box                      | Line 2 to 5               | In the above <i>Helianthus</i><br>genus   | Here <i>Helianthus</i> genus (generic epithet) and <i>annuus</i> denotesspecies epithet. |

| 9  | R      | The Binomial                            | Bullets 4<br>Line 3 | printed in italics.                      | in italics, when printed.  |
|----|--------|---|---------------------|--|--|
| 10 | L      | Kingdom Monera                          | Line 1              | It contains unicellular                  | These are unicellular  |
| 10 | L      | Kingdom Monera                          | Line 5              | types of environment which are           | types of environment i.e. habitats which are   |
| 10 | L      | Kingdom Monera                          | Line 6              | living begins. Few are                   | living beigns. Nutritionally few are   |
| 10 | L      | Kingdom Monera                          | Line 11             | circular single chromosome called        | circular, single ring without nuclear membrane, called   |
| 10 | R      | 2 <sup>nd</sup> para                    | Line 1              | Morphologicaly, bacteria                 | Morphologically, bacteria  |
| 10 | R      | 2 <sup>nd</sup> para                    | Line 4              | vibrio and the spiral–spirillum.         | vibrio and the spring like spiral-<br>spirillum.   |
| 10 | R      | a. Archaebacteria                       | Last line           | methane in biogas plants.                | methane in biogas plants. Cell wall is<br>without peptidoglycans.<br>Reproduction by binary fission.                     |
| 12 | L<br>R | Dinoflagellates<br>angles aids          |                     |  | Read the information on<br>Dianoflagellates and Euglenoids in<br>continuation with plant-like protists<br>on page no. 11 |
| 12 | L      | Fungi like protists                     | Last line           | conditions.                              | conditions e.g. Stemonitis.  |
| 13 | L      | -                                       | Line 4 from<br>top  | septa. They may be uni or multinucleate. | Septa. They may be uni-or multinucleate.   |
| 14 | L      | Do you know?                            | Line 8              | fungal part while                        | fungal partner while   |
| 14 | L      | Do you know?                            | Line 9              | alga and also absorbed water             | alga and also the absorbed water   |
| 14 | R      | 2.14 a. Viruses<br>1 <sup>st</sup> para | Line 4              | M. J. Beijernek, after                   | M. J. Beijernck, after   |
| 14 | R      | 2.14 Viruses                            | Para 1 line<br>9    | viruses are inert outside                | viruses are inert when outside   |
| 15 | L      | Do you know?                            | Line 3              | as RNA.                                  | as RNA together at a time.   |

| 15 | L | Below Fig. 2.13<br>2 <sup>nd</sup> para | First 3 lines | The generic material<br>double stranded DNA. | Genetic material in viruses is usually<br>either single stranded RNA (very<br>rarely double stranded RNA) or<br>double stranded DNA (rarely single<br>stranded DNA). |
|----|---|---|---------------|--|--|
|----|---|---|---------------|--|--|

### Chapter – 3. Kingdom Plantae

| Page<br>No. | Column<br>Left (L)/ Right(R) | Heading/Paragraph                     | Line No.                  | Printed Matter  | Correction  |
|-------------|------------------------------|---------------------------------------|---------------------------|---|---|
| 19          | L                            | Can you recall?                       | 1. line 1                 | call as plants producers on land?                                     | call plants as producers on land?   |
| 19          | L                            | 3.1                                   | Bullet 1                  | Phanerogams   | Phanerogamae  |
| 19          | L                            | 3.1                                   | Bullet 2                  | Cryptogams  | Cryptogamae   |
| 19          | R                            | 3.2                                   | Title                     | under Cryptogams  | under Cryptogamae   |
| 19          |                              | 3.1 chart                             |                           | Spellings of Cryptongams,<br>Phanerogams, Angiosperms,<br>Gymnosperms | Spellings of Cryptogamae,<br>Phanerogamae, Angiospermae,<br>Gymnospermae. |
| 20          | L                            | 1 <sup>st</sup> para                  | Line 3                    | verity of proteins  | variety of proteins   |
| 20          | L                            | 1 <sup>st</sup> para                  | Line 4                    | forms. Reprocuction.  | forms. Reproduction.  |
| 20          | L                            | 1 <sup>st</sup> para                  | Line 6                    | way. The  | ways. The   |
| 20          | L                            | Chlorophyceae<br>2 <sup>nd</sup> para | Line 2                    | and marine)   | and marine) forms.  |
| 20          | L                            | Chlorophyceae<br>2 <sup>nd</sup> para | Line 4                    | form of starch  | form of true starch.  |
| 21          | R                            | Can you tell?                         | Line5                     | Differentiate between   | 4. Differentiate between  |
| 21          | R                            | Can you tell?                         | Line 7                    | Enlist example of   | 5. Enlist example of  |
| 21          | R                            | B. Bryophyte<br>1 <sup>st</sup> para  | Line 3                    | But they need   | But they badly need   |
| 22          | L                            | B. musci                              | Line 11                   | axis bearing spiral   | axis bearing spirally arranged  |
| 22          | R                            | Economic Importance                   | Last 3 <sup>rd</sup> line | .plants. Dense layers of mosses                                       | plants. Dense mats of mosses  |

| 23 | L | Below box<br>3 <sup>rd</sup> para        | Line 1                    | In these members Xylem<br>consists of | In these members, xylem consists of                   |
|----|---|--|---------------------------|---------------------------------------|---|
| 23 | R | 3.3 A.<br>Gymnospermae                   | Line 3                    | India, it is represented              | India, this group is represented                      |
| 24 | L | 1 <sup>st</sup> para                     | Line 4                    | vascular plants having                | vascular plants predominantly having                  |
| 24 | L | 3 <sup>rd</sup> para                     | Line 6                    | are diamorphic. The foliage           | are dimorphic. The foliage                            |
| 25 | L | 1 <sup>st</sup> para                     | Line 3                    | in microsporangia (or anthers) they   | in microsporangia (of anthers)<br>they                |
| 25 | L | a. Dicotyledonae<br>1 <sup>st</sup> para | Line 5                    | show tetra or pentamerous<br>symmetry | show tetra-or pentamerous<br>symmetry                 |
| 25 | R | Fig 3.10                                 | Labelling                 | Corn seed                             | Corn grain  |
| 25 | R | 3.4 plant life                           | Line 7                    | The gametophyte produces              | The gametophyte produces separately                   |
| 26 | L | 2 <sup>nd</sup> para                     | 2 <sup>nd</sup> last line | gametophyte is generally              | independent, non-vascular<br>gametophyte is generally |
| 27 | L | MCQ C.                                   | Choice d                  | Inconspicuous gametophyte             | Inconspicuous gametophyte is present.                 |
| 27 | L | MCQ E                                    | Choice b                  | Mode of nutrition                     | Autotrophic mode of nutrition                         |
| 27 | L | Q. 2                                     | Line 3                    | flow chart with example of.           | flow chart of each.                                   |
| 28 | L | Practical/Project                        | Line 2                    | of cycas in detail.                   | of <i>Cycas</i> in detail.                            |

Chapter – 5. Cell Structure and Organization

| Page<br>No. | Column<br>Left (L)/ Right(R) | Heading/Paragraph    | Line No.  | Printed Matter            | Correction                       |
|-------------|------------------------------|----------------------|-----------|---------------------------|----------------------------------|
| 44          | L                            | Fig. 5.1             | Labelling | (circa late 1600s)        | (late 1600s)                     |
| 45          | L                            | A. Prokaryotic       | Line 3    | cell envelop              | cell envelope                    |
| 45          | R                            | 1 <sup>st</sup> para | Line 1    | cell envelop is a         | cell envelope is a               |
| 46          | L                            | Always Remember      | Line 3    | coiled DNA.               | coiled DNA ring.                 |
| 46          | R                            | B. Eukaryotic        | Line 1    | the eukaryotic cells have | the eukaryotic cells though have |

|    |   | 2 <sup>nd</sup> para                       |                           |                                  |  |
|----|---|--|---------------------------|----------------------------------|--|
| 47 | L | Primary wall                               | Line 2                    | growth it is said inside to      | growth. It is laid inner to                                    |
| 47 | L | Primary wall                               | Line 3                    | wall seen in meristematic tissue | wall seen cells of meristematic tissue                         |
| 47 | L | Secondary wall 2 <sup>nd</sup> para        | Line 2                    | cells which show pores           | cells which communicate through the pores                      |
| 48 | R | 4. (ER)<br>3 <sup>rd</sup> para            | 2 <sup>nd</sup> last line | smooth ER. Smooth and rough      | smooth ER respectively. Smooth and rough                       |
| 49 | L | 5. Golgi complex<br>2nd para               | Line 2                    | stack of membranous              | stacks of hollow membranous                                    |
| 51 | L | Last para                                  | 2 <sup>nd</sup> last line | takes place by contractile       | takes place through contractile                                |
| 51 | R | 8. Glyoxysomes                             | Line 5                    | of sugar till it starts          | of sugar by reverse glycolysis till it starts                  |
| 53 | L | Below box<br>2 <sup>nd</sup> para          | Line 9                    | ribbon like. A cell              | ribbon like etc. A cell  |
| 53 | L | 3 <sup>rd</sup> para                       | Last line                 | tubules called stroma            | tubules called stromal   |
| 54 | L | Always Remember                            | Line 4                    | in ultracentrifuge it is         | in an ultracentrifuge it is                                    |
| 54 | L | 12. Nucleus<br>2 <sup>nd</sup> para        | Line 7                    | the inner membrane is lined by   | the inner membrane on inner side is lined by                   |
| 54 | R | Can you recall?                            | 2. Line 2                 | of a cell.                       | of a cell?   |
| 54 | R | Can you recall?                            | 3. Line 2                 | RBCs called living?              | RBCs be called living?   |
| 55 | L | Chromatin material                         | Line 10                   | is more and is genetically       | is more in the extended state and is genetically               |
| 55 | L | Chromatin material                         | Line 12                   | and less DNA and are             | and DNA is in a highly condensed state and is                  |
| 55 | L | Below Fig. 5.16<br>1 <sup>st</sup> para    | Last line                 | like normal human cell has 46.   | in their body cells like normal human cell has 46 chromosomes. |
| 55 | R | Cilia and flagella<br>1 <sup>st</sup> para | Line 1                    | hair like membrane bound         | hair like contractile, membrane bound                          |
| 55 | R | Cilia and flagella<br>1 <sup>st</sup> para | Last line                 | oars causing, movement           | oars causing, co-ordinated movement                            |

| 55 | R | Cilia and flagella<br>2 <sup>nd</sup> para | Line 3      | different from that of                   | different from those of                   |
|----|---|--|-------------|--|---|
| 56 | L | Centrioles                                 | Line 4      | The cylinders are perpendicular to       | The cylinders are placed perpendicular to |
| 57 | L | Q.1. MCQ                                   | C. Line 1   | Plasma membrane is Fluid structure       | Plasma membrane is fluid structure        |
| 57 | L | Q.1 MCQ                                    | F. choice d | All of the above                         | Each one of the above                     |
| 57 | L | Q.1 MCQ                                    | G. a.       | a. Mitochondria. Peroxysome              | a. Mitochondria. Peroxisome               |
| 57 | R | Q.2 D.                                     | Line 2      | glycoprotein molecules. When determining | glycoprotein molecules. While determining |
| 57 | R | Q. 3                                       | C.          | What are types Plastids?                 | What are the types Plastids?              |

Chapter – 6. Biomolecules

| Page<br>No. | Column<br>Left(L)/ Right(R) | Heading/Paragraph                     | Line No.                  | Printed Matter                     | Correction                                      |
|-------------|-----------------------------|---------------------------------------|---------------------------|------------------------------------|---|
| 60          | L                           | 1. Monosaccharides                    | Line 3                    | taste and soluble in water.        | taste and are soluble in water.                 |
| 61          | R                           | a. Starch                             | Line 1                    | Starch is a stored food            | Starch is a stored (reserve) food in            |
| 61          | R                           | Biological significance               | 2 <sup>nd</sup> last line | wall and reserved food             | wall and reserve food                           |
| 62          | R                           | Simple Lipids<br>2 <sup>nd</sup> para | Line 2                    | act as reserved food               | act as reserve food                             |
| 63          | R                           | C. Proteins                           | Characteristics           | amino acid units ranging from      | amino acid units (building blocks) ranging from |
| 65          | L                           | Last para                             | Line 4                    | DNA. They observed                 | DNA. He observed                                |
| 65          | L                           | Last para                             | Line 6                    | They also found that               | He also found that                              |
| 65          | R                           | 1. Structure of DNA                   | Line 12                   | of a nucleotide form - a molecule, | of a nucleotide together form - a molecule,     |
| 65          | R                           | Last Para                             | Line 2                    | of nucleotides one above           | of nucleotides linked one above                 |

| 66 | L | Above the box                        | Last line                     | other can be determined)   | other can then be determined)  |
|----|---|--------------------------------------|-------------------------------|--|--|
| 66 | R | DNA model box                        | Line 5                        | opposite direction so end  | opposite direction (antiparallel) so end   |
| 67 | L | 2 <sup>nd</sup> para                 | Line 4                        | cellular RNA. Its  | total cellular RNA. Its  |
| 67 | R | 2 <sup>nd</sup> para                 | 1 <sup>st</sup> line from top | stranded but to number   | stranded but folded due to number  |
| 67 | R | 2 <sup>nd</sup> para                 | Line 6                        | DHU arm (dihydroxy uracil)   | DHU arm (dihydroxy uridine)  |
| 67 | R | 2 <sup>nd</sup> para                 | Line 12                       | pair with codon present<br>on  | pair with complementary codon present on   |
| 68 | R | Properties of<br>Enzymes             | Line 2                        | made up of protein   | made up of proteins except ribozymes.  |
| 69 | L | Temperature                          | Line 1, 2                     | Enzymes are destroyed at<br>higher temperature at 60-70°<br>C or below, they | Enzymes are denatured or<br>destroyed at higher temperature at<br>60-70° C. Below 4°C temperature,<br>they |
| 69 | L | Nomenclature<br>2 <sup>nd</sup> para | Line 4                        | add co; decarboxylase  | add CO <sub>2</sub> ; decarboxylase  |
| 69 | L | Nomenclature<br>2 <sup>nd</sup> para | Line 5                        | helping in oxidation.  | helping in oxidation etc.  |
| 70 | R | Mechanism<br>2 <sup>nd</sup> para    | Line 4                        | the reactions that lead  | the reaction that leads  |
| 72 | R | Metabolic<br>2 <sup>nd</sup> para    | Line 2                        | Krebs cycle only provide   | Krebs cycle not only provide   |
| 73 | L | Secondary<br>1 <sup>st</sup> para    | Last line                     | produce secondary<br>metabolism  | produce secondary metabolites.   |
| 74 | L | Q.1. MCQ A.                          | Choice D                      | all of theses  | each of these  |
| 74 | L | Q.1. MCQ B.                          | Choice D                      | all of theses  | each of these  |
| 74 | L | Q.1. MCQ E.                          | Choice C                      | Steric   | Stearic  |
| 74 | R | Q. 3 L                               | Line 1                        | How do metabolites useful for?   | How do metabolites are useful for?   |
| 75 | L | Q. 4. B. iii.                        | Line 2                        | level of protein, which  | levels of protein, which   |

| 75 | L | Q. 5. G    | Line 1 | Explain the properties of enzyme?      | Explain the properties of enzymes.           |
|----|---|------------|--------|--|--|
| 75 | R | Q. 6.      | Line 2 | (cytosine) what percent A<br>(adenine) | (cytosine) what is percentage of A (adenine) |
| 75 | R | Q. 7. iii. | -      | The reagents testing for reducing      | The reagents testing of reducing             |

Chapter – 7. Cell Division

| Page<br>No. | Column<br>Left (L)/Right(R) | Heading/Paragraph                   | Line No.                  | Printed Matter  | Correction   |
|-------------|-----------------------------|-------------------------------------|---------------------------|---|--|
| 76          | L                           | Can you recall?                     | Point 1.                  | How do your wounds heal?  | How do your body wounds heal?  |
| 76          | L                           | Cell cycle                          | Line 2                    | of a cell is called   | of a dividing cell is called   |
| 76          | L                           | Cell cycle                          | Line 6                    | undergoes division. Interphase  | undergoes actual division.<br>Interphase   |
| 77          | L                           | A. Amitosis                         | Line 5                    | the nucleus into two  | the nucleus unequally into two   |
| 77          | R                           | 1 <sup>st</sup> para                | Line 6                    | and disappeares gradually.  | and disappears gradually.  |
| 79          | L                           | Death of cell                       | Line 9, 10                | between the fingers die in a<br>natural process called apoptosis to<br>give | between fingers (digits) die<br>naturally (by process called<br>apoptosis) to give |
| 79          | L                           | C. Meiosis                          | Line 4                    | by this division the number of  | by this division of the total number, the number of                                |
| 79          | L                           | C. Meiosis                          | Last line                 | two subtypes  | two types of divisions.  |
| 79          | R                           | Leptotene                           | 2 <sup>nd</sup> last line | centrosome duplicate and migrate to   | centrosome duplicates and migrate to   |
| 79          | R                           | Pachytene                           | Line 3                    | At this stage, tetrads become   | At this stage, tetrads (tetravalent) become  |
| 81          | L                           | Cytokinesis<br>2 <sup>nd</sup> para | Line 4                    | The anaphase directly   |  |
| 83          | L                           | Q. 1. MCQ F.                        | Line 1                    | How many chromatides are present  | How many chromatids are present  |

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph         | Line No.     | Printed Matter  | Correction   |
|-------------|-------------------------------|---------------------------|--------------|---|--|
| 85          | L                             | Can you recall?           | Point 2.     | 2. what is tissue?  | 2. what is a tissue?   |
| 85          | L                             | Can you recall?           | Point 3.     | 3. Explain simple and complex tissue.   | 3. Explain simple and complex tissues.   |
| 85          | L                             | 8.1 Tissue                | Line 3       | a group of cells having   | a group of similar or dis-<br>similar cells having   |
| 85          | L                             | A. Classification         | Line 2       | Following criterias are used  | following criteria are used  |
| 87          | R                             | 1. Xylem<br>Below diagram | Line 6       | elements and vessels in angiosperms,  | elements while vessels in angiosperms,   |
| 87          | R                             | 1. Xylem<br>Below diagram | Line 8       | () show presence of vessels.  | () are the conducting elements.  |
| 88          | L                             | 1 <sup>st</sup> para      | Line 3, 4    | walls are unevenly thickened and lignified.   | walls are thick having uneven deposition of lignin.  |
| 88          | L                             | 2 <sup>nd</sup> para      | Line 1, 2, 3 | Vessels are longer than<br>tracheids with dissolved<br>ends by unionend to<br>end.        | Vessels are longer than tracheids<br>and are formed by dissolution of<br>end walls of row of cells i.e.<br>vessels elements. |
| 88          | L                             | 2 <sup>nd</sup> para      | Line 5, 6    | Their lumen is wider than<br>tracheids and the thickening is<br>due to lignin and similar | Their lumen is wider than that of tracheids and the thickening is due to uneven deposition of lignin and similar             |
| 88          | L                             | 2 <sup>nd</sup> para      | Line 11      | Thickening while latter formed have larger  | Thickening while later formed have larger  |
| 88          | R                             | below Fig 8.8             | Line 4       | formed by septa with small pores.   | formed by septa having small pores.  |
| 89          | L                             | Phloem parenchyma         | Last line    | These cells are absent in<br>monocots.  | It is absent in monocots.  |

Chapter – 8. Plant Tissues and Anatomy

| 89 | R | A. Epidermal<br>Last para | Line 5          | Cyctoplasm and a nucleus.                   | Cytoplasm and a nucleus.  |
|----|---|---------------------------|-----------------|---|---|
| 90 | L | 2 <sup>nd</sup> para      | Line 10         | chloroplasts to carry out                   | few chloroplasts to carry out   |
| 90 | L | 2 <sup>nd</sup> para      | Line 11, 12     | causing its opening and closing, thus       | causing opening and closing of stoma, thus  |
| 90 | L | B. Ground                 | Line 3          | tissue is ground tissue.                    | tissues is ground tissue.   |
| 90 | L | B. Ground                 | Line 7          | and schlerenchyma                           | and sclerenchyma  |
| 90 | L | B. Ground                 | Line 9          | leaves is also ground tissue.               | leaves also constitute ground tissue.   |
| 90 | L | Vascular tissue<br>system | Line 6          | on separate radius as separate bundle.      | on separate radii as separate bundle.   |
| 90 | L | Vascular tissue system    | Line 10         | the form of xylem inside and phloem outside | the form where xylem is inside and phloem is outside  |
| 91 | R | 8.7 Cork cambium          | Line 3          | of cambium present the outer                | of cambium present in the outer   |
| 91 | R | 8.7 Cork cambium          | Line 12         | wheras on the                               | whereas on the  |
| 92 | L | 1 <sup>st</sup> para      | Line 1, 2       | present as raised scars the surface of      | present (as raised scars) on the surface of   |
| 93 | L | C. Anatomy                | Line 4          | outgrowths called trichomes.                | Having outgrowths called trichomes.   |
| 93 | L | C. Anatomy                | Line 6          | Cortex is situated below the                | Cortex is situated inner to the   |
| 93 | R | 1 <sup>st</sup> para      | Line 6          | multilayered and also called hard bast.     | multilayered sclerenchymatous<br>in the region of vascular bundles<br>and it is called hard bast. |
| 94 | L | V. S. of dicot leaf       | title           | V. S. of dicot leaf                         | T. S. of dicot leaf:  |
| 94 | L | Fig. 8.17                 | title labelling | V. S. of dicot leaf                         | T. S. of dicot leaf   |
| 94 | R | Vascular system           | Line 6          | xylem towards upper                         | xylem lies towards upper  |
| 94 | R | Fig. 8.18                 | title labelling | V. S. of Monocot leaf                       | T. S. of monocot leaf   |
| 95 | L | Q.1 MCQ                   | A caption       | A. Location or position of                  | A. Based on location or position  |

|    |   |                    |              | meristematic region is divided                                | meristematic regions are divided                                      |
|----|---|--------------------|--------------|---|---|
|    |   |                    |              | into types.   | into types.   |
| 95 | L | Q.1 MCQ            | A. choice d. | d. none of the above  | d. four   |
| 95 | L | Q.2 B.             | Line 3       | Teacher said but girth.<br>Why?                               | Teacher opined that girth.<br>Why?                                    |
| 95 | L | Q.2 C.             | Line 2       | bundles, where one tissue was<br>wrapped                      | bundles, where one vascular tissue<br>was wrapped                     |
| 95 | R | Q. 2 F             | Line 2       | label under microscope. The section had                       | label. The section had  |
| 95 | R | Q. 4 Differentiate | С            | Internal or anatomical difference between monocot and dicots. | Internal or anatomical differences between monocot and dicot leaves.  |
| 96 | L | Q. 6               | Caption      | Write the information related to diagrams given below         | Write the information related to<br>parts in the diagrams given below |

Chapter – 9. Morphology of Flowering Plants

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph                   | Line No.                  | Printed Matter                              | Correction                                   |
|-------------|-------------------------------|-------------------------------------|---------------------------|---|--|
| 98          | L                             |                                     | Line 12                   | pocket e.g. Pistia                          | pockets e.g. Pistia                          |
| 98          | L                             |                                     | Line 27                   | hair/absorption                             | hairs/absorption                             |
| 98          | R                             | a. tap root<br>2 <sup>nd</sup> para | Line 2                    | is known as tap system.                     | constitutes tap system.                      |
| 98          | R                             | b. Adventitious roots               | Line 9                    | they look like fibre.                       | they look like thin fibres.                  |
| 99          | L                             | Last para                           | Line 3                    | vertically upward.                          | vertically upwards.                          |
| 99          | R                             | Last para                           | Last 3 <sup>rd</sup> line | roots are swellings                         | roots show swellings                         |
| 101         | L                             | 1. Epiphytic roots                  | Last 3 <sup>rd</sup> line | hygroscopic and have porous walls The roots | hygroscopic and show porous walls. The roots |
| 101         | R                             | B. Stem                             | Line 10                   | it produces dissimilar organs               | it produces dissimilar lateral organs        |
| 102         | L                             | a. Underground stem                 | Line 7                    | helps in perinnation and                    | helps in perennation and                     |

| 102 | L | 1. Rhizome                 | Line 4                        | and internodes, bears                    | and internodes, scale leaves and bears   |
|-----|---|----------------------------|-------------------------------|--|--|
| 102 | R | 2. Stem Tuber              | Line 2                        | their tips become swollen due to         | their tips become irregularly swollen due to                                     |
| 103 | L | 4. Corm                    | Line 2                        | or subspherical vertically growing       | or subspherical internode of vertically growing                                  |
| 103 | L | b. Sub aerial stem         | 2 <sup>nd</sup> last line     | The later produces aerial                | The latter produces aerial   |
| 105 | L | Fig. Stem tendrils         | Line 3                        | This bud in cucurbita                    | This bud in Cucurbita  |
| 106 | L | 1 <sup>st</sup> para       | 4 <sup>th</sup> line from top | greately in shpe, margin                 | greately in shape, margin  |
| 106 | L | Types of leaf              | Line 7                        | compound leaf are of two types           | compound leaves are of two types.  |
| 107 | L | c. Leaf hooks              | Line 2                        | terminal leaflet gets                    | terminal leaflets get  |
| 107 | R | D. Inflorescence<br>para 2 | Last line                     | single visit also makes                  | single visit and also makes  |
| 108 | L | b. Cymose                  | Line 1, 2                     | is finite limited.                       | is finite or limited.  |
| 108 | L | E. Flower<br>para 2        | Line 4                        | highly condenseed internodes.            | highly condensed internodes.   |
| 109 | L | below Fig. 9.42            | Line 1                        | internods. Slope of thalamus             | internodes. Shape of thalamus  |
| 109 | L | c. Epigyny                 | Line1                         | When thalamus completely                 | When closed cup like thalamus completely   |
| 109 | L | c. Epigyny                 | Line 2                        | encloses and fusion with wall,           | encloses and fusion with wall of ovary,  |
| 109 | L | c. Epigyny                 | Last line                     | denoted as G-in floral formula.          | denoted as $\overline{\mathbf{G}}$ in floral formula.                            |
| 109 | L | b. Floral parts            | Line 2                        | parts develop from                       | parts are developed from   |
| 109 | R | 1. Calyx<br>para 1         | Last line                     | is found in Brassica                     | is found in Brassica   |
| 110 |   | Table 9.43<br>Vexillary    | Line 3                        | two lateral petals and two smaller fused | two lateral partly overlapping<br>petals are and two smaller<br>inner, and fused |

| 110 | L | Aestivation                          | Line 2                           | sepals, petals in a flower with  | sepals, petals in a flower bud   |
|-----|---|--------------------------------------|----------------------------------|--|--|
|     |   |                                      |                                  | respect to   | with respect to  |
| 110 | L | Epicalyx                             | Line 2                           | formed by bractiole which  | formed by bracteoles which   |
| 110 | R | 3. Connective                        | Line 3                           | two anther lobes and also with the   | two anther lobes and also the anther with the  |
| 111 | L | 4. Gynoecium<br>2 <sup>nd</sup> para | 2 <sup>nd</sup> last line        | produced in ovary on a   | produced in an ovary on a  |
| 112 | L | 1 <sup>st</sup> para                 | Last line                        | inner endocarp   | inner endocarp e.g. Mango  |
| 112 | L | 2 <sup>nd</sup> para                 | Last 3 <sup>rd</sup> line        | (Pea) are dehiscent fruits.  | (Pea) are dry dehiscent fruits.  |
| 112 | R | 9.3 Study of                         | Last two lines                   | is vexillum, to small petal are<br>wings and to smallest petals are<br>keel. | is vexillum, two free small<br>petals are wings and two fused<br>smallest petals are keel. |
| 113 | L |                                      | 1 <sup>st</sup> line from<br>top | stamens In diadelphous condition.  | stamens In diadelphous<br>[(9)+1] condition.   |
| 113 | R |                                      | 7 <sup>th</sup> line from top    | (gamopetalous) arranged contorted aestivation.                               | (gamopetalous) arranged in contorted aestivation.  |
| 114 | L | Q.1 MCQ C.                           | 3 <sup>rd</sup> line             | the ovary was below other three whorls,                                      | the ovary was below the level of other three whorls,                                       |
| 114 | L | Q.1 MCQ C.                           | Choice c                         | c. Inferior ovary  | c. Epigynous   |
| 114 | L | Q.1 MCQ D.                           | 2 <sup>nd</sup> line             | Are the examples for two different types?                                    | Do these examples represent<br>two different types?  |

### Chapter – 10. Animal Tissue

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph | Line No. | Printed Matter              | Correction           |
|-------------|-------------------------------|-------------------|----------|-----------------------------|----------------------|
| 117         | R                             | 6. Sensory        | title    | Sensory epithelial tissue : | Sensory epithelium : |

| Chapter – | 12. | Photos | ynthesis |
|-----------|-----|--------|----------|
|-----------|-----|--------|----------|

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph                     | Line No.                      | Printed Matter                               | Correction                                       |
|-------------|-------------------------------|---------------------------------------|-------------------------------|--|--|
| 138         | R                             | 1 <sup>st</sup> para                  | 4 <sup>th</sup> line from top | specific spectrum in the visible region.     | specific wavelength in the visible region.       |
| 138         | R                             | 1 <sup>st</sup> para                  | Line 8                        | NADPH  | NADPH <sub>2</sub>                               |
| 138         | R                             | 1 <sup>st</sup> para                  | Line 9                        | NADPH  | NADPH <sub>2</sub>                               |
| 138         | R                             | Two of chlorophylls                   | Line 2                        | Nature of groups                             | Nature of side groups                            |
| 138         | R                             | Two of chlorophylls                   | Line 7                        | called phytol attached                       | called <i>phyto</i> l attached                   |
| 138         | R                             | Two of chlorophylls                   | Line 9                        | compound present                             | compounds present                                |
| 139         | L                             | Last para                             | Last line                     | molecule from                                | molecules from                                   |
| 140         | L                             | 3 <sup>rd</sup> para                  | Line 7, 8                     | action spectra match well to each other.     | action spectra overlap each other.               |
| 140         | L                             | Can you tell? Box                     | 3. point                      | Draw well labeled diagram                    | Draw well labelled diagram                       |
| 140         | R                             | Last para                             | Line 3                        | is water this is                             | is water. This is                                |
| 140         | R                             | Last para                             | Line 7                        | have oxidized releasing                      | have been oxidized, releasing                    |
| 141         | L                             | Below<br>Think about it. Box          | Line 3                        | ATP and NADPH                                | ATP and NADPH2                                   |
| 141         | L                             | Below lower<br>Think about it. Box    | Line 11                       | dark reaction.                               | dark reaction (also called Blackman's reaction). |
| 141         | R                             | 2 <sup>nd</sup> para                  | Line 4                        | Antenna molecule.                            | Antenna molecules.                               |
| 141         | R                             | Photosystems I and<br>II              | Line 9                        | , can pass it energy to the P <sub>680</sub> | , can pass its energy to the P <sub>680</sub>    |
| 142         | L                             | Photosystem I<br>1 <sup>st</sup> para | Line 7                        | of NADPH.                                    | of NADPH <sub>2</sub> .                          |
| 142         | L                             | 2 <sup>nd</sup> para                  | Line 1                        | Hydrogen attached to NADPH is                | Hydrogen attached to NADPH <sub>2</sub> is       |
| 143         | L                             | 2 <sup>nd</sup> para                  | Line 3                        | NADPH  | NADPH <sub>2</sub>                               |
| 143         | L                             | 2 <sup>nd</sup> para                  | Line 4                        | NADPH  | NADPH <sub>2</sub>                               |

| 143 | L | 3 <sup>rd</sup> para                             | Line 2                    | NADPH   | NADPH <sub>2</sub>  |
|-----|---|--|---------------------------|---|---|
| 143 | L | 12.6 Dark reaction :                             | Line 3                    | NADPH   | NADPH <sub>2</sub>  |
| 143 | R | 2. Glycolytic<br>Reversal : 1 <sup>st</sup> para | Line 4                    | NADPH   | NADPH <sub>2</sub>  |
| 143 | R | 2. Glycolytic<br>Reversal : 2 <sup>nd</sup> para | Line 4                    | NADPH   | NADPH <sub>2</sub>  |
| 145 | L | Light Reaction (in granum)                       | 3 <sup>rd</sup> point     | →12 NADPH   | $\longrightarrow$ 12 NADPH <sub>2</sub>   |
| 145 | L | Dark Reaction (in stroma)                        | Line 1                    | $\begin{array}{c} 6\text{CO}_2 + \dots + 12 \text{ NADPH} \longrightarrow \\ \text{C}_6\text{H}_{12}\text{O}_6 \end{array}$ | $\begin{array}{c} 6\text{CO}_2 + \dots + 12 \text{ NADPH}_2 \longrightarrow \\ \text{C}_6\text{H}_{12}\text{O}_6 \end{array}$ |
| 145 | L | Last para  | 2 <sup>nd</sup> last line | looses 25% of   | loses 25% of  |
| 145 | R | Above Fig. 12.11                                 | Line 3, 4                 | , which get utilized in   | , which is then used in   |
| 145 | R | 12.8 C4pathway<br>1 <sup>st</sup> para           | Line 4                    | It has been found   | It has been also found  |
| 145 | R | 12.8 C4pathway<br>2 <sup>nd</sup> para           | Line 4                    | 3-carbon phosphoglyceric acid.  | 3-carbon compound,<br>phosphoglyceric acid.   |
| 147 | R | 1 <sup>st</sup> para                             | Line 4, 5                 | in the red rays and then come blue rays.  | in the red wavelength and then come to the blue wavelength.   |
| 147 | R | Carbon dioxide                                   | Line3                     | Only 0.3% of the gas.   | Only 0.03% of the gas.  |
| 148 | L | Blackman's law<br>1 <sup>st</sup> para           | Line 4                    | is controlld by the   | is controlled by the  |
| 148 | R | 2 <sup>nd</sup> para                             | 2 <sup>nd</sup> last line | reaching and optimum  | reaching an optimum   |
| 150 | L | Q. 2. L  | Line 1                    | What would have happed if   | What would have happened if   |
| 150 | L | Q. 2. M  | Line 1                    | Why does RnBisCo carry out  | Why does RUBISCO carry out  |
| 150 | L | Q. 2. P  | Line 3                    | Through also C4 plants<br>Explain   | even then C4 plants<br>Explain  |

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph        | Line No.  | Printed Matter  | Correction  |
|-------------|-------------------------------|--------------------------|-----------|---|---|
| 151         | R                             | Glycolysis<br>Last para  | Line 3    | two molecules of 1, 3 -<br>bisphoglycerate            | two molecules of 1, 3 -<br>bisphosphoglycerate                  |
| 153         | R                             | Krebs cycle<br>Last para | Line 2    | pyruvic acid enters                                   | pyruvic acid (3c) enters  |
| 153         | R                             | Krebs cycle<br>Last para | Line 5    | to form acetyl-CoA.                                   | to form acetyl-CoA (2c).  |
| 154         | L                             | Below Fig. 13.1          | Line 7, 8 | sources is with oxaloacetic acid to form citric acid. | sources is with oxaloacetic acid (4c) to form citric acid (6c). |
| 155         | L                             | 1 <sup>st</sup> para     | Line 4    | I, II, III, VI and V.                                 | I, II, III, IV and V.   |
| 155         | L                             | 1 <sup>st</sup> para     | Line 6    | (coenzyme Q CoQ) present on                           | (coenzyme Q i.e. CoQ) present on                                |
| 155         | R                             | 3 <sup>rd</sup> para     | Line 4    | present in inner membrane.                            | embedded in inner membrane.                                     |
| 156         | L                             | Always Remember          | Line 3    | participate in Kreb's                                 | participate in Krebs  |
| 157         | L                             | В.                       | Line 2    | are removed. Seeds are                                | are removed. Dehulled seeds are                                 |
| 157         | R                             | Always Remember          | Line 13   | dehydrogenases free hydrogen                          | dehydrogenases as free hydrogen                                 |
| 159         | L                             | Q.1. MCQ C.              | Line 1    | C. Which step of Kreb's cycle                         | C. Which step of Krebs cycle                                    |

### Chapter – 13. Respiration and Energy Transfer

## Chapter – 14. Human Nutrition

| Page<br>No. | Column<br>Left (L)/ Right (R) | Heading/Paragraph                           | Line No. | Printed Matter | Correction    |
|-------------|-------------------------------|---|----------|----------------|---------------|
| 171         | R                             | Know the scientists<br>1 <sup>st</sup> para | Line 1   | Kamala Sohonie | Kamala Sohoni |
| 171         | R                             | Know the scientists<br>1 <sup>st</sup> para | Line 1   | Dr. Sohonie    | Dr. Sohoni    |