INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two sections and printed both in KANNADA and in ENGLISH.

Candidate has to attempt FIVE questions in all.

Question No. 1 and 5 are compulsory and out of the remaining, THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Answer must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Word limit in questions, wherever specified, should be adhered to.

Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.
1. (a) Describe the asexual spore producing structures of first land vascular plants.

(b) Give an account of microbes in soil and air.

2. Describe the structure and functions of the following:
   (i) Air bladders
   (ii) Dwarf male
   (iii) Cystocarp
   (iv) Nucule
   (v) Plurilocular Sporangium


4. Compare the vegetative and Floral structures of Umbelliferae with that of Asteraceae? Which of the two families is highly evolved and why?
5. (a) व्याभिनियोजन एवं विभाजन, निर्देश:
(ii) ग्रोमिन

Explain the Reproductive structures of
(i) Sargassum
(ii) Graminae

(b) नाशनेन्द्रियों अभिवृद्धिपूर्वक निर्माणमार्ग मार्गावेच. Describe the crucifer type Embryo development.

6. (a) नाशनेन्द्रियों विविधता, निर्देश:
(b) अम्लकेचर
(c) वनस्पतिविद्या, निर्देश
(d) एडकेकेला विभाजन
(e) रस्सियाचे निर्माण, निर्देश

Write short notes on the following
(a) Endosperm and its types
(b) Apomixis
(c) Anther culture
(d) Somatic hybrids
(e) Chemotaxonomy

7. (a) फलाचे निर्माण व विविधता, निर्देश:

Describe the Fruiting bodies of Ascomycetes and Basidiomycetes.

(b) निर्माणावेच चिन्हांचे निर्माण व विविधता, निर्देश:
(i) सुध्देसा, निर्देश
(ii) मूलपूर्ति, निर्देश
(iii) धातुचबास, निर्देश
(iv) धातुशोध, निर्देश
(v) घरुंडोमो

Explain the Inflorescence and Fruit of the following plants
(i) Euphorbia
(ii) Ficus
(iii) Leucas
(iv) Cocos
(v) Coriandrum
8. (a) Medicinal uses of Fungi

(b) Sources and uses of Alginates and Agar.
QCA : 04/II

BOTANY : Paper-II

2014

Instructions

(i) All Questions are compulsory.

(ii) In any Question, you have the option of attempting either KANNADA or ENGLISH.

(iii) You must attempt ONE Question from each section.

(iv) There are EIGHT questions divided into two sections, and printed both in KANNADA and ENGLISH.

(candidate has to attempt FIVE questions in all.

Question No. 1 and 5 are compulsory and out of the remaining, THREE are to be attempted choosing at least ONE question from each section.

The number of marks carried by a question/part is indicated against it.

Answer must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Word limit in questions, wherever specified, should be adhered to.

Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.)
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (a)</td>
<td>Describe the structure of cell organelles involved in Photosynthesis and protein synthesis.</td>
</tr>
<tr>
<td>1. (b)</td>
<td>Discuss Chromosomal aberrations by deletion and translocation.</td>
</tr>
<tr>
<td>2. (a)</td>
<td>Explain the chemistry of DNA. Discuss the methods of DNA replication.</td>
</tr>
<tr>
<td>2. (b)</td>
<td>What is Gene Mapping? Explain the Gene Mapping by two point and three point test cross.</td>
</tr>
<tr>
<td>3.</td>
<td>Describe the following:</td>
</tr>
<tr>
<td>(a)</td>
<td>Dormancy in plants</td>
</tr>
<tr>
<td>(b)</td>
<td>Photoperiodism</td>
</tr>
<tr>
<td>(c)</td>
<td>Photosynthesis</td>
</tr>
<tr>
<td>(d)</td>
<td>Fermentation</td>
</tr>
<tr>
<td>(e)</td>
<td>Biological Nitrogen fixation.</td>
</tr>
<tr>
<td>4. (a)</td>
<td>What are trace elements? Explain the Physiological role and effects of Cu, Zn, Mn and Bo in plants.</td>
</tr>
<tr>
<td>4. (b)</td>
<td>Explain Briefly the importance of secondary Metabolites.</td>
</tr>
</tbody>
</table>
5. (a) Give an account of various Forest types of India.

(b) List the timber and millet yielding plants, their Botanical names and the Families they belong to.

6. What are phytohormones? Explain the growth promoting hormones and their applications in Agriculture.

7. Write notes on the following:
   (a) Transpiration is a necessary Evil.
   (b) Epistasis.

8. Write a critical essay on soil under the following headings:
   (a) Physical properties
   (b) Soil water
   (c) Soil organisms
   (d) Humus