UG/II/BOT/H/III/18(New)

2018

BOTANY

[Honours]

PAPER – III

Full Marks : 90

Time : 4 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[NEW SYLLABUS]

GROUP – A

1. Answer any *ten* of the following : 2 × 10

   (*a*) Distinguish between alpha-and omega-taxonomy.

(*b*) Distinguish between monophyly and polyphyly

(*c*) What is acronym ? Cite one example.

(*d*) Distinguish between Halophytes and Helophytes.

(*e*) Define Pharmacognosy.

(*f*) In which phytogeographical region Sundarban belongs (according to the concept of D. Chatterjee) and name one vascular cryptogam from that locality.

(*g*) What are Secondary metabolites ? Cite an example.

(*h*) What are biopesticides ? Give an example.

(*i*) Write the full forms of JFM and CITES.

(*j*) Define Lectotype.

(*k*) What are stylopodium and Retinaculum. In which families they belong ?

(*l*) Give the plant names form which Bio-diesel and pararubber are extracted.

(*m*) Differences between Syngenecious stamens and Synandrous stamens.

(*n*) Define Carrying capacity and Edge Effect.

(*o*) What are biopesticides ? Give examples.

GROUP – B

2. Answer any *five* of the following : 8 × 5

(*a*) Write the full form of ICN. Discuss the principles of priority of ICN (ICBN) with proper examples. 2 + 6

(*b*) Define 'HOTSPOTS' and name two hotspots of India. Mention the different threats to bio-diversity. 2 + 1 + 5

(*c*) What does it mean by adulterant ? Describe the different conditions of adulteration. 2 + 6

(*d*) Write down the cultivation process of marigold. What are the marketing and trading processes of marigold ? 6 + 2

(*e*) Characterise the family Asteraceae. Why is the family considered as the most advanced among the Dicolyledons ? 6 + 2

(*f*) Discuss the roles of plant chemistry and palynology in Taxonomy with two examples to each. 4 + 4

(*g*) What is bio-geochemical cycle ? Discuss the sulphur cycle in nature. 2 + 6

(*h*) Classify and describe in brief the different phytogeographical regions in India according to D. Chatterjee. 8

GROUP – C

3. Answer any *two* of the following : 15 × 2

(*a*) Give a broad outline of the classification of angiosperms proposed by Bentham and Hooker. Why is it called natural system ? Mention the merits and demerits of this system of classification. 9 + 2 + 2 + 2

(*b*) Write notes on any *three* of the following : 5 × 3

(*i*) Ozone Hole

(*ii*) Phytoremediation and Waste management

(*iii*) Taxomomic keys

(*iv*) Roles of Botanic Garden in taxonomic study and

(*v*) Active principles and respective uses of *Adhatoda* and *Strychnos*.

(*c*) Write the scientific names, families and morphological nature of used parts of any *five* plants. 3 × 5

(*i*) Teak
(*ii*) Tea
(*iii*) Ganja
(*iv*) Cauliflower
(*v*) Cashew-nut
(*vi*) Clove oil
(*vii*) Ginger
(*viii*) Rubber and
(*ix*) *Eucalyptus*.

(*d*) Mention the diagnostic characters of the following families (any *three*) : 5 × 3

(*i*) Lamiaceae

(*ii*) Euphorbiaceae

(*iii*) Zingiberaceae

(*iv*) Cyperaceae and

(*v*) Apiaceae.
