

Master of Design (M.Des.) Furniture & Interior Examination 2017

Semester – II

Paper: MFI – II/02

Advance Material & Manufacturing

Time: 3 Hrs

Full Marks: 40

Questions are of value as indicated in the margin

Attempt any four questions. All questions carry 10 marks.

1. Answer the following questions. 10 X 1=10

- A. The difference between Hoppus volume and True volume is.....
- B. Fast growing timbers are also known as (conventional/ plantation) timbers.
- C. Tunnels are made by (powder post borers/ pin hole borers).
- D. Which chemical is used in dipping and steeping method?
- E. What is green wood?
- F. Fungi do not attack timbers until its moisture content is above.....
- G. Holocellulose is made up of..... &.....
- H. Lignin is (structural/ binding component of a plant cell.
- I. Agar oil is obtained from.....
- J. Which part of sandalwood tree yield maximum essential oil?

2. Answer the following questions. Marks as indicated.

- A. What is heat insulating material? **2**
- B. Write some name and uses of them. **2**
- C. Write the density, thermal conductivity and thermal resistivity of the above mentioned material. **6**

3. Answer the following questions. Marks as indicated.

- A. Mention few points about fungal attack in wood. **2**
- B. Describe any one qualitative test in detail for the presence of preservatives in treated timber. **3**
- C. Describe middle lamella in cell wall. **3**
- D. Mention some species from which commercial dyes are obtained. **2**

4. Answer the following questions. Marks as indicated.

- A. Briefly describe: **2 X 2= 4**
 - i. Asbestos cement sheet
 - ii. Galvanized iron (G.I) sheet
- B. Write comparative statement between them. **6**

5. Match the following:

10 X 1=10

- | | |
|--|----------------|
| A. Insect repellency | Primary wall |
| B. Infection to heartwood results in producing | Termites |
| C. A fast growing species | Tall oil |
| D. Warley layer is a part of | Fungus |
| E. A preferred species of hardwood | Middle Lamella |

P.T.O.

(2)

- | | |
|---|-------------------|
| F. Pulping process results in obtaining | Deodar Oil |
| G. Staining of sapwood is due to | Secondary wall |
| H. Lignin is a part of | Agar Oil |
| I. Timber is hollowed out due to | <i>poplar sp.</i> |
| J. Thin network of cellulose is a part of | Rosewood |

6. Write names, properties and uses of sound absorbent material. 10

7. **Answer the following questions. Marks as indicated.**

- | | |
|---|---|
| A. Draw a line diagram all the walls of a plant cell. | 3 |
| B. Classify inorganic and organic extractives. | 2 |
| C. Describe "Hot & Cold open tank treatment" | 3 |

OR

"Pressure impregnation method"

- | | |
|---|---|
| D. How do you calculate volume of log using true volume method? | 2 |
|---|---|

8. Write short notes on **(any four)**: 2.5 X 4=10

- A. Vulcanization
- B. Sealants for joints
- C. PVC pipes in buildings
- D. Asphalt
- E. Gypsum
- F. Cork

9. **Answer the following questions. Marks as indicated.** 5 X 2=10

- A. Who invented ASCU and what are its chemical constituents?
 - B. What is micro-fibril?
 - C. What are tans? How they are useful?
 - D. Name the major components of a cell wall.
 - E. Name three categories of wood preservatives.
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