# Master of Design (M.Des.) Examination, 2018

**Semester - I**

**Specialization in Ceramic & Glass**

**Paper – MCG-I/03**

**( Method & Material-I )**

**Time: Three Hours** **Full Marks: 80**

*Questions are of value as indicated in the margin.*

***Question No. 6 is compulsory** and **any four** from the rest.*

1. Mention the main purpose of glazing a pottery ware. How glazes are classified? Draw a flow sheet for the manufacture of ceramic glaze frit. 4+4+8=16

2. Discuss the main differences between transparent and opaque glazes. Briefly describe about glaze-body interface. Write notes on ceramic stains. 3+5+8=16

3. Mention the basic differences between under glaze and on glaze decoration on pottery wares. Describe different types of glaze defects and suggest remedies. 8+8=16

4. Discuss the advantages and disadvantages of using lead as a glaze material. What are the main purposes of fritting a glaze composition? What are the main factors of preparing a stable glaze slip? 8+4+4=16

5. Write notes on ***any two***: 8+8=16
   a) Crystalline glaze
   b) Opacifiers
   c) Malt glaze

6. The empirical formula of a raw lead glaze is given below: 16
   0.60 PbO
   0.30 ZnO 0.22 $A1_2O_3$ 2.10 $SiO_2$ 0.10 CaO
   Calculate the batch composition taking the usual raw materials.
   [At. wt.: Pb.207, Zn - 65.4, Ca-40, Si -28, Al- 27, O-16]

7. a) What is semiconducting glaze and when it is applied ? How does it differ from traditional porcelain glaze?
   b) What is engobe and how is it applied? (6+4)+6 = 16

8. Write short notes on the following (***any two***): 8+8=16
   a) Chrome –tin pink
   b) Flow blue
   c) Under glaze and over glaze stain
   d) Role of $SiO_2$ in glaze

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