No. of Printed Pages : 4

BET-015

DIPLOMA IN CIVIL ENGINEERING (DCLE(G)) / ADVANCED LEVEL CERTIFICATE COURSE IN CIVIL ENGINEERING (DCLEVI / ACCLEVI)

Term-End Examination

00570

June, 2015

BET-015 : ENGINEERING MATERIALS

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt any **four** more questions out of questions no. 2 to 8. All questions carry equal marks.*

1. Choose the correct alternatives from the following : *7×2=14*

(a) Physically granite is known as

(i) unstratified rock

(ii) stratified rock

(iii) laminated rock

(iv) calcareous rock

(b) Brick is manufactured from

(i) natural material

(ii) clay

(iii) stone

(iv) None of the above

(c) The lime which increases 2 to 2·5 times in a volume after slaking is known as

(i) hydraulic lime

(ii) poor lime

(iii) fat lime

(iv) quick lime

(d) The characteristic strength of concrete at 23 days of M-20 concrete is

(i) $5\ N / mm^2$

(ii) $10\ N / mm^2$

(iii) $15\ N / mm^2$

(iv) $20\ N / mm^2$

(e) Searing makes timber

(i) lighter

(ii) heavier

(iii) prone to decay

(iv) weak

(f) The defect which occurs in painting due to trapped moisture is known as

(i) fading

(ii) blistering

(iii) flaking

(iv) None of the above

(g) The glass manufactured by pouring molten glass from a furnace and then pressing it between the rollers to obtain the required thickness is known as

(i) clear glass

(ii) heat absorbing glass

(iii) rolled glass

(iv) float glass

2. (a) Explain the various points required to be given due consideration, which will help to increase the life of a stone structure particularly in the polluted atmosphere of a big industrial town. 7

(b) Describe the various types of tiles with the help of a systematic diagram. 7

3. (a) Discuss the development of strength of pure compounds of cement with lime. 7

(b) Explain the various field tests of lime. 7

4. (a) What do you mean by fineness modulus of sand ? Explain the purpose of its determination. 7

(b) Explain the different methods of transportation of concrete. 7

5. (a) Explain the cross-section of an exogenous tree with the help of a neat sketch. 7

(b) Discuss the objects of seasoning timber. 7

6. (a) Describe the various reasons of failure of paints. 7

(b) Discuss the various types of polymer products used in construction. 7

7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Manufacturing of bricks

(b) Chemical composition of Ordinary Portland Cement

(c) Grades of concrete

(d) Stacking of timber

8. Differentiate between the following : $4 \times 3\frac{1}{2} = 14$

(a) Cement and Lime

(b) Volume and Weigh Batching

(c) Natural and Artificial Seasoning

(d) Polymer Impregnated Concrete and Polymer Concrete