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**Question Paper Code : 40061**

B.E. DEGREE EXAMINATION, APRIL/MAY 2018  
Second Semester  
Civil Engineering  
PH 8201 : PHYSICS FOR CIVIL ENGINEERING  
(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART - A

(10×2=20 Marks)

1. What is called fenestration ? Give two examples.
2. What is meant by cooling load ?
3. The intensity of sound during heavy traffic is  $10^{-4} \text{ Wm}^{-2}$ . Calculate intensity level in decibel.
4. What is a floating floor ? Why is it used in buildings ?
5. Define Lambert's Cosine law.
6. What is the purpose of supplementary artificial lighting ?
7. Define pseudoelasticity in shape memory alloys.
8. List any four applications of metallic glasses.
9. What are cyclones ?
10. Define epicentre of an earthquake.



## PART - B

(5×16=80 Marks)

11. a) i) What is thermal insulation? Give its importance. Name any two thermal insulators. (6)
- ii) Describe the factors with example components that affect thermal performance of buildings. (10)
- (OR)
- b) What is natural ventilation? Give its purpose. Explain the principles behind wind driven and stack ventilation mechanisms. (16)
12. a) Define reverberation time. Derive Sabine's formula for reverberation time using growth and decay method. (16)
- (OR)
- b) i) Write short notes on porous absorbers. Give two examples. (6)
- ii) Describe airborne sound and impact sound insulation measurements. (10)
13. a) i) Explain in detail about photopic, mesopic and scotopic visions. (12)
- ii) What is glare? How do you reduce it? (4)
- (OR)
- b) List any four artificial light sources and discuss about ambient, task and accent lighting in buildings. (16)
14. a) What are composites? Explain in detail about the structure and applications of Fiber Reinforced Plastics (FRP) and Fibre Reinforced Metals (FRM). (16)
- (OR)
- b) What are ceramics? With neat diagrams, explain the slip casting, isostatic pressing and gas pressure bonding manufacturing processes. (16)
15. a) With necessary diagrams, explain different types of body waves and surface waves in seismology. (16)
- (OR)
- b) Discuss in detail about fire hazards and guidance on preventive measure. (16)