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Reg.No.: 

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**VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN**  
 [AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]  
 Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 1003**

**B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – AUG. / SEP. 2023**

Second Semester

**U19GE202 – BASIC CIVIL AND MECHANICAL ENGINEERING**

(Regulation 2019)

(Common to all Branches)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

**PART – A**

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	How the construction materials are classified?	2	K1	CO1
2.	What is surveying?	2	K2	CO1
3.	What are the functions of foundation?	2	K1	CO2
4.	List out the types of column.	2	K2	CO2
5.	Name any four thermal power plant in Tamil Nadu.	2	K1	CO3
6.	Name the important components of a boiler.	2	K1	CO3
7.	What is meant by scavenging in two stroke engine?	2	K1	CO4
8.	Differentiate between clearance volume and swept volume.	2	K2	CO4
9.	List some properties required for a good refrigerant.	2	K2	CO5
10.	Distinguish between vapour compression and vapour absorption refrigeration system.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Explain briefly about the various steps involved in the preparation of concrete.	13	K3	CO1
	(OR)			
b)	Explain the classification, qualities and constituents of brick.	13	K4	CO1
12. a)	Explain with neat sketches the shallow foundation.	13	K3	CO2
	(OR)			
b)	Briefly describe about the different types of stone masonry with neat sketches.	13	K3	CO2
13. a)	With a neat sketch explain the working principle of hydro power plant.	13	K3	CO3
	(OR)			
b)	Explain the construction and working principle of centrifugal pump.	13	K3	CO3
14. a)	Compare and contrast a four stroke engine with a two stroke engine.	13	K4	CO4
	(OR)			
b)	With a neat sketches explain the working principle of four stroke petrol engine.	13	K4	CO4
15. a)	Draw the sketch of vapour compression refrigeration system. List out the components and their functions.	13	K3	CO5
	(OR)			
b)	Discuss briefly the different air conditioning systems.	13	K3	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Compare and contrast between steam, hydro and nuclear power plants.	15	K4	CO3
	(OR)			
b)	Discuss about barriers and challenges of Electric vehicle in India.	15	K4	CO4