CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech III Semester Regular Examinations February-2024
Course Name: BASIC ELECTRICAL ENGINEERING
(Common for CSE, CSD & CSC)

Date: 19.02.2024 AN   Time: 3 hours   Max.Marks: 60

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries ONE mark.   10x1=10M

1. State Ohm's law.   1 M
2. What are active and passive elements.   1 M
3. Compare D.C and A.C. quantities.   1 M
4. Define R.M.S value of an alternating quantity.   1 M
5. What is a transformer? Write the main parts of a transformer.   1 M
6. Define voltage regulation of a transformer.   1 M
7. State Fleming's left-hand rule.   1 M
8. Give the significance of back e.m.f in D.C. motor.   1 M
9. Why A.C. Generator is called a synchronous generator?   1 M
10. Differentiate primary and secondary batteries.   1 M
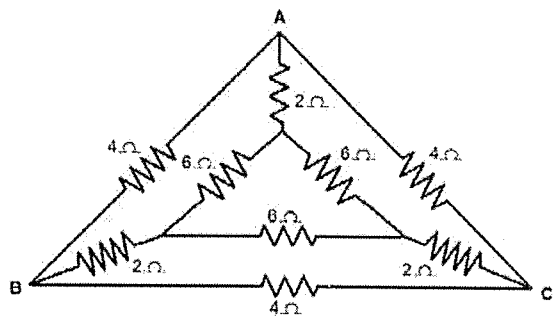
PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). Derive the equivalent resistance for series and parallel circuits.   10M

OR

11. B). Obtain the equivalent resistance between B and C for the following network by using Δ-Y   10M
and Y-Δ transformations.

12. A). Derive the RMS and Average values for sinusoidal waveform.   10M

OR

12. B). Explain the steady state analysis of series RL circuit for sinusoidal excitation.   10M

13. A). Derive the EMF equation of a transformer.   10M

OR

13. B). Explain the Open circuit and short circuits tests of the transformer with neat circuit   10M
diagrams.

(P.T.O..)

14. A). Explain the principle and working of a three-phase induction motor.   10M

OR

14. B). Describe the construction of a D.C machine with neat sketch.   10M

15. A). Discuss the construction of three phase alternator with a neat sketch.   10M

OR

15. B). i) Write the differences between fuse and circuit breaker.   5M
ii) Describe MCB and MCCB.   5M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech III Semester Regular Examinations February-2024
Course Name: BASIC ELECTRONIC CIRCUITS
(Electronics & Communication Engineering)

Date: 19.02.2024 AN 　　　　　　　 Time: 3 hours 　　　　　　　 Max.Marks: 60

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries ONE mark. 　　　　　　　　　　 10x1=10M

1.	Define Dynamic resistance,	1 M
2.	What is diffusion capacitance?	1 M
3.	Define ripple factor.	1 M
4.	What are the drawbacks of halfwave rectifier?	1 M
5.	What is pinch-off voltage?	1 M
6.	Draw the symbol for MOSFET.	1 M
7.	What is the difference between BJT and FET?	1 M
8.	What are the parameters that control the pinch-off voltage of JFET?	1 M
9.	What is the purpose of varactor diode?	1 M
10.	Draw the symbol of LED and UJT.	1 M

PART-B
Answer the following. Each question carries TEN Marks. 　　　　　　 5x10=50M

11.A).	Explain V-I Characteristics of a P-N Junction diode with neat diagrams.	10M
	OR	
11. B).	Explain diffusion capacitance and Transition capacitance with relevant equations.	10M
12. A).	Explain the operation of bridge rectifier with input and output wave forms.	10M
	OR	
12. B).	Describe the operation of clamper circuit with neat diagrams.	10M
13. A).	Describe the operation of transistor in common emitter configuration.	10M
	OR	
13. B).	Explain AC and DC load lines in BJT biasing with neat sketches.	10M
14. A).	Explain construction and principle of operation for FET with neat diagram.	10M
	OR	
14. B).	Explain FET biasing techniques in detail.	10M
15. A).	Describe the principle and operation of SCR with neat diagrams.	10M
	OR	
15. B).	Explain briefly about photo diode, Solar cell, LED and Schottky diode.	10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech III Semester Regular Examinations February-2024
Course Name: BUILDING MATERIALS, CONSTRUCTION AND PLANNING
(Civil Engineering)

Date: 19.02.2024 AN   Time: 3 hours   Max.Marks: 60

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries ONE mark.   10x1=10M

1.	Briefly describe various reasons for decay of stones.	1 M
2.	What are the various methods of quarrying of stones?	1 M
3.	Define hydration of cement.	1 M
4.	What are the Constituents of concrete.	1 M
5.	What is the purpose of providing lintels and arches?	1 M
6.	What are the functional requirements of ventilators.	1 M
7.	List the various bonds in brick masonry.	1 M
8.	What is meant by underpinning.	1 M
9.	Define plot area and built-up area.	1 M
10.	Mention the objectives of building byelaws?	1 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). Explain the Manufacturing process of bricks.   10M

OR

11. B). Which tests are required for determining the suitability of bricks for construction works?   10M
Describe the tests briefly.

12. A). Explain in detail about the manufacturing of cement.   10M

OR

12. B). What is admixture? Explain any chemical admixture.   10M

13. A). Draw a sketch and explain various components of a dog-legged staircase.   10M

OR

13. B). Define ventilation and explain functional requirement systems of ventilation.   10M

14. A). Explain different types of Bonds used in brick masonry with sketches.   10M

OR

14. B). Explain about Form work, material used for form work and various precautions to be   10M
taken during use of formwork.

15. A). What are the various rooms provided in residential building and explain it briefly?   10M

OR

15. B). Enumerate the Classifications of buildings and their purpose.   10M

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