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SUBJECT CODE NO: - BNP-2571
FACULTY OF SCIENCE AND TECHNOLOGY
BSc. F.Y.(SEM-I) (CBCGS NEP) Electronics
Examination November / December 2024
Electronics Network Analysis and Semiconductor Devices

[Time: 1:00 Hours]

[Max. Marks: 30]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) Draw neat circuit diagram whenever necessary.

**Q.1 Attempt following multiple choice questions.**

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- 1) Once a Zener diode goes into breakdown, its _____ does not change much
 - a) Current
 - b) Voltage
 - c) Capacitance
 - d) Dynamic impedance,
- 2) When used in a circuit, the Zener diode is always _____
 - a) Forward-biased
 - b) Connected in series
 - c) Troubled
 - d) Reverse-biased
- 3) The current amplification factor alpha dc (α_{dc}) is given by _____
 - a) I_C/I_E
 - b) I_C/I_B
 - c) I_B/I_E
 - d) I_B/I_C
- 4) The smallest of the four h-parameters of a transistor is _____
 - a) h_i
 - b) h_r
 - c) h_o
 - d) h_f
- 5) The PIV of a half-wave rectifier circuit with a shunt capacitor filter is _____
 - a) V_m
 - b) $2V_m$
 - c) $3V_m$
 - d) $4V_m$

Q.2 Attempt any four questions.

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- (a) Explain Maximum power transfer theorem?
- (b) Explain characteristics of common collector (cc) transistor?
- (c) Explain transistor services voltage regulator?
- (d) Explain half wave rectifiers?
- (e) Explain P-N junction diode?
- (f) Explain Superposition theorem?