# 0912_R16_COMP_III_CSC304_Sample_Questions

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| Q1. | Operating point represents ……. |
| Option A | Values of $I_C$ and $V_{CE}$ when signal is applied |
| Option B | The magnitude of signal |
| Option C | Zero signal values of $I_C$ and $V_{CE}$ |
| Option D | AC signal values |
| | |
| Q2. | For proper amplification by a transistor circuit, the operating point should be located at the ……. of the DC load line |
| Option A | The end point |
| Option B | Middle |
| Option C | The maximum current point |
| Option D | Below the cut-off |
| | |
| Q3. | In voltage divider bias, operating point is 3 V, 2 mA. If $V_{CC}$ = 9 V, $R_C$ = 2.2 kΩ, what is the value of $R_E$? |
| Option A | 2000 Ω |
| Option B | 1400 Ω |
| Option C | 800 Ω |
| Option D | 1600 Ω |
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| Q4. | In voltage divider bias, $V_{CC}$ = 25 V; $R_1$ = 10 kΩ; $R_2$ = 2.2 V; $R_C$ = 3.6 V and $R_E$ =1 kΩ. What is the emitter voltage? |
| Option A | 6.7 V |
| Option B | 5.3 V |
| Option C | 4.9 V |
| Option D | 3.8 V |
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| Q5. | A silicon transistor is biased with base resistor method. If β=100, $V_{BE}$ =0.7 V, zero signal collector current $I_C$ = 1 mA and $V_{CC}$ = 6V, what is the value of the base resistor $R_B$? |
| Option A | 105 kΩ |
| Option B | 530 kΩ |
| Option C | 315 kΩ |
| Option D | 350 kΩ |
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| Q6. | An LC oscillator cannot be used to produce ……. frequencies |
| Option A | High |
| Option B | Audio |
| Option C | Very low |
| Option D | Very high |
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| Q7. | The piezoelectric effect in a crystal is …… |

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| Option A | A voltage developed because of mechanical stress |
| Option B | A change in resistance because of temperature |
| Option C | A change in frequency because of temperature |
| Option D | A voltage developed because of electrical signal |
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| Q8. | The crystal oscillator frequency is very stable due to ……. of the crystal |
| Option A | Rigidity |
| Option B | Vibrations |
| Option C | Low Q |
| Option D | High Q |
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| Q9. | A second condition of Barkhausen criteria for oscillations is ……. |
| Option A | A gain of 1 around the feedback loop |
| Option B | No gain around the feedback loop |
| Option C | The attention of the feedback circuit must be one-third |
| Option D | The feedback circuit must be capacitive |
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| Q10. | Which of the following amplifier class have highest linearity and lowest distortion? |
| Option A | Class A |
| Option B | Class B |
| Option C | Class C |
| Option D | Class AB |
| | |
| Q11. | Which type of power amplifier is biased for operation at greater than 180º of the cycle? |
| Option A | Class A |
| Option B | Class B |
| Option C | Class C |
| Option D | Class AB |
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| Q12. | The ability of the receiver to select the wanted signals among the various incoming signals is termed as |
| Option A | Sensitivity |
| Option B | Selectivity |
| Option C | Stability |
| Option D | Fidelity |
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| Q13. | Standard intermediate frequency used for AM receiver is |
| Option A | 455 MHz |
| Option B | 455 kHz |
| Option C | 455 Hz |
| Option D | 45.5 kHz |
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| Q14. | Calculate the bandwidth occupied by a DSB signal when the modulating frequency lies in the range from 100 Hz to 10KHz. |
| Option A | 28 KHz |
| Option B | 24.5 KHz |
| Option C | 38.6 KHz |
| Option D | 19.8 KHz |
| | |
| Q15. | The function of multiplexing is |
| Option A | To reduce the bandwidth of the signal to be transmitted |
| Option B | To combine multiple data streams over a single data channel |
| Option C | To allow multiple data streams over multiple channels in a prescribed format |
| Option D | To match the frequencies of the signal at the transmitter as well as the receiver |
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| Q16. | AM wave may be represented as E(t) cos $\omega_c t$ where E(t) is |
| Option A | Envelope of the AM wave |
| Option B | Carrier signal |
| Option C | Amplitude of modulating signal |
| Option D | Modulating signal |
| | |
| Q17. | Advantage of using direct method for generation of FM signal is |
| Option A | It gives high stability to FM signal frequency |
| Option B | Distortion free FM signal is generated |
| Option C | High power FM generation is possible |
| Option D | Low power FM generation is possible |
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| Q18. | The digital modulation technique in which the step size is varied according to the variation in the slope of the input is called |
| Option A | Delta modulation |
| Option B | PCM |
| Option C | Adaptive delta modulation |
| Option D | PAM |
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| Q19. | The information rate R for given average information H= 2.0 for analog signal band limited to B Hz is |
| Option A | 8 B bits/sec |
| Option B | 4 B bits/sec |
| Option C | 2 B bits/sec |
| Option D | 16 B bits/sec |
| | |
| Q20. | The information I contained in a message with probability of occurrence is given by (k is constant). |
| Option A | $I = k \log_2 1/P$ |
| Option B | $I = k \log_2 P$ |
| Option C | $I = k \log_2 1/2P$ |
| Option D | $I = k \log_2 1/P^2$ |

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| Q21. | The Op-amp can amplify |
| Option A | a.c. signals only |
| Option B | a.c. signals only |
| Option C | both a.c. and d.c. signals |
| Option D | neither d.c. nor a.c. signals |
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| Q22. | The input stage of an Op-amp is usually a ……. |
| Option A | differential amplifier |
| Option B | class B push-pull amplifier |
| Option C | CE amplifier |
| Option D | swamped amplifier |
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| Q23. | For an Op-amp with negative feedback, the output is ……. |
| Option A | equal to the input |
| Option B | increased |
| Option C | fed back to the inverting input |
| Option D | fed back to the noninverting input |
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| Q24. | In PCM, the parameter varied in accordance with the amplitude of the modulating signal is |
| Option A | Amplitude |
| Option B | Frequency |
| Option C | Phase |
| Option D | Code |
| | |
| Q25. | Granular noise occurs when |
| Option A | Step size is too small |
| Option B | Step size is too large |
| Option C | There is interference from the adjacent channel |
| Option D | Bandwidth is too large |