| **SECTION A**  **OBJECTIVE QUESTIONS**  **Answer**   1. **A 11. A 21. D 31. A** 2. **B 12. B 22. D 32. B** 3. **B 13. C 23. A 33. B** 4. **A 14. D 24. A 34. B** 5. **C 15. A 25. A 35. A** 6. **D 16. A 26. B 36. C** 7. **D 17. B 27. A 37. C** 8. **A 18. B 28. C 38. A** 9. **C 19. C 28. A 39. D** 10. **B 20. C 30. D 40. A**   **SECTION B**  **QUESTION 1 (a)**  List FIVE (5) situations where instruments need to be calibrated.  **[CLO1 / C2]**  **Answer**   1. new instrument 2. when a specified time period is elapsed 3. when a specified usage (operating hours) has elapsed 4. when an instrument has had a shock or vibration which 5. potentially may have put it out of calibration 6. sudden changes in weather 7. whenever observations appear questionable | MARK/NOTES  1 mark each  **Max 5 marks**  1  1  1  1  1  1  1 |
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| **QUESTION 1 (b)**  Describe the terms below:   1. Accuracy 2. Precision 3. Sensitivity   **[CLO 1 / C3 / DP1]**  **Answer**   1. The accuracy of a measurement system is the degree of closeness of measurements of a quantity to that quantity's actual (true) value. 2. The precision of a measurement system is the degree to which repeated measurements under unchanged conditions show the same results. 3. Sensitivity measures the proportion of actual positives which are correctly identified as such. Sensitivity relates to the test's ability to identify positive results.   QUESTION 1 (c)  Sketch and label a phone line connecting from the nearest switching centre to your house.  **[CLO 1 / C3 / DP1, DP3, DP4]**  **Answer**    ***“If the working method is different from the solution given, make an appropriate adjustment to the marking scheme with approval from Program Leader”*** | MARK/NOTES  **Total 6 marks**  2  2  2  **Total 14 marks**  Sketching 5 marks  Labelling 9 marks |