**WEEK 7&8: Assignment**

**Course: B.Sc. Medical Microbiology III Year**

**Subject: Applied Immunology and Sero-Diagnosis**

**Subject Code: Paper II**

**Teacher’s Name: Dr. Nidhi Belwal/Dr. S. Dheeman**

**Topic Covered: Electrophoresis: PAGE**

**Q1. Fill in the blanks.**

1. SDS is an\_\_\_\_\_\_\_\_\_\_\_\_\_\_ detergent.
2. β-Mercaptoethanol along with SDS is used to break\_\_\_\_\_\_\_\_\_\_\_\_\_ bonds in protein prior to electrophoresis.
3. Electrophoresis was discovered by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Disontinuous PAGE has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gel with different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Polyacrylamide gel formation is a free radical induced polymerization in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ provides free radicals in the presence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as catalyst.
6. Principle of Electrophoresis is:$V=\frac{E ×q}{?}$
7. In PAGE the chemical used to form cross linking polymer are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_& \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. For the visualization of the PAGE gel, staining with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is more sensitive than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. In \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PAGE, separation is based on the shape, size & charge of the molecule.
10. Pore size is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proportional to the concentration of Polyacrylamide gel.

**Q2. Answer the following in well illustrative manner:**

1. **Electrophoresis & its types**
2. **PAGE- Principle and functioning**
3. **Differentiate in between**
4. **Continuous & Discontinuous PAGE**
5. **Native & SDS PAGE**
6. **Reducing & Non- reducing SDS PAGE**
7. **Polyacrylamide Gel formation- Chemistry**

**Q3. Write step of PCR.**

**Q4. Why we need to do PCR**

**Q5. What is RT-PCR?**

**Q6. Describe the process of PCR**

**Q7. Write applications of PCR**