
Virtual University of Pakistan

(ZOO630)

(Research methods in Biology)

Final term Past Papers

Email address zoo630@vu.edu.pk

Website: www.vuway.com

Facebook Page: <https://web.facebook.com/vuways>

Facebook Page: www.facebook.com/vuways

Facebook Group: <https://web.facebook.com/groups/vuways>

Facebook Group: www.facebook.com/groups/vuways

SDS-PAGE,

**preservation, acid
fast technique,
biosensor, western
blotting,**

GC chromatography

importance of 2D-electrophoresis (2) types
of size exclusion chromatography (2)
objectives of preservation (3) purpose of
sampling (3) use and importance of optical
biosensors (5) what are FACS (5)
potentiometric biosensors (5) SDS-PAGE
principle (10)

- 1: What is the clearing step in the microtomy? 2mks
- 2: What are detectors in biosensor? 2
- 3: How would you define the PCR technology? 2
- 4: Differentiate between basic and applied research? 3mks
- 5: Write the indirect method of western blotting? 3
- 6: What is the principle of gel electrophoresis? 3
- 7: What are the classes of chromatography according to the force of separation? 5
- 8: Write down the applications of PCR? 5
- 9: What are electrochemical biosensor? 5
- 10: State and explain the principle of SDS-PAGE? 10

micrometry

nature of carrier gas in gas chromatography
component of PCR advantage n disadvantage
of cluster sampling nature of probe how gel
electrophoresis works uses of western blotting
SDS PAGE

SUBJECTIVE

- Q.1 write sampling criteria?2
- Q.2 what is chromatography?2
- Q.3 components of PCR?3
- Q.4 principle of PCR?3

Q.5 Principle of gel filtration chromatography?3

Q.6 gel transfer in membrane of cytochrome ?5

Q.7 transducer of biosensor?

Q.8 SDS-PAGE principle?10

Q.9 use of biosensors?

Q.10 what is PCR technique?2

1) monocular microscope 2 marks

2) extension step in PCR 2 marks

3) detector in biosensor 2 marks

4) applications in TLC 3 marks

5) objectives of preservation 3 marks

6) How sample is loaded and gel run in western blotting? 3 marks

7) principle of gas chromatography 5 marks

8) note on DNA polymerase 5 marks

9) blocking step in western blotting 5 marks

10) principle of SDS-PAGE 10 marks

1.SDS-PAGE principal... 10

2.how sample is prepared in western blotting??... 5

3.DNA plymerase... 5

4..Gel characteristics... 5

5.optical biosensor.. 3

6..Extension step in PCR... 3

7..components of thin layer chromatography.... 3

8..detector of biosensor... 2

9..purpose of acid fast technique... 2

10..what is probe... 2

2 types of grm staining. 2 marks

Objectives of specimen preservation.. 2 marks

Biosensor detector.. 2marks

Loading of sample and how gel run in western blotting.. 3 marks

3 basic components of gel electrophoresis.. 3 marks Animal
preservation steps.. 3 marks.

Gram staining steps.. 5 marks

DNA polymerase.. 5 marks

SDS-PAGE.. 5 marks

Principle of SDS-PAGE... 10 marks
SDS-page principle 10 marks
Gel electrophoresis principle 5 marks
Antibody probing 5 marks
Document nd record diff 2mark
Optic biosensor 3 features 2 marks
App of chromatography
Components of paper chromatography 3 marks

Final term 2018

5.00pm 1/9/18

2 marks

Define pcr

Importance of 2Delectrophoresis

Define biosensor

3 marks

Main obj of preservation

3 apps of NB

Sample load and run gel in WB

5 marks

Factors affect preservatives

Dis adv of PCR components

of WB

10 marks

STATE AND EXPLAIN SDS-PAGE principle