**BANKURA UNIVERSITY**

**B.Sc. 1th Semester (Honours) Examination, March 2021**

**Subject: *Electronics (H)***

**Course ID: 11714 Course Code: SH/ELC/103/GE-1(TH)**

**Course Title: *Electronic Circuits and PCB Designing***

**Full Marks: 25 Time: 1 Hr 15 Min**

*(The figures in the right hand side margin indicate marks.*
*Answer all the questions)*

1. Answer *any three* of the following questions 1×3=3
   a) Define Ohm's law.
   b) What do you understand by a junction in a semiconductor?
   c) What is a Rectifier?
   d) What is load line of a transistor?
   e) What do you mean by SMT?
   f) What is a layout?

2. Answer *any three* of the following questions. 2×3=6
   a) Starting from Ohm's law deduce the conductance and its unit.
   b) What do you mean by regulated power supply? Explain.
   c) Explain thermal runaway of a transistor.
   d) What is a filter? State different kinds of filters. 1+1=2
   e) What is leakage current of a transistor. Define it. 1+1=2
   f) Draw the output characteristics of a transistor and explain each domain.

3. Answer *any two* of the following questions. 5×2=10
   a) State and Explain Kirchoff's Current law. Show that is represents the conservation of charge. 3+2=5
   b) State and explain maximum power transfer theorem.

c) State different kinds of transistor biasing. Which one is superior? 4+1=5

d) Find the expression of ripple factor of a FWR.

4. Answer *any one* of the following questions. 6×1=6

a) State and explain Thevenin's theorem with example.

b) Describe the SMT clearly depicting its benefits and limitations.

c) What is hybrid parameters? Define each. 2+4=6