1. In ECM, value of void fraction along the path of flow of electrolyte is increasing but temperature of the electrolyte remains approximately constant. Slope of the machined surface will be

a) zero
b) varying linearly
c) varying nonlinearly
d) unpredictable

Ans. (b), (c)

2. Electrochemically machined surfaces have

a) High residual stresses and improved fatigue strength
b) High residual stresses and reduced fatigue strength,
c) Insignificant residual stresses and reduced fatigue strength,
d) Insignificant residual stresses and improved fatigue strength.

Ans. (c)

3. Electrolyte is not consumed in ECM. Type of electrolyte used during ECM, therefore, has no effect on MRR.

a) True
b) False

Ans. (b)

4. IEG during ECM is usually in the range of 1-3 mm.
a) True
b) False

Ans. (b)

5. Theoretically tool wear rate during ECM is zero.
a) True
b) False

Ans. (a)

6. In shaped tube electrolytic machining temperature of electrolyte is maintained between
a) 41-45^{o}C
b) 37-40^{o}C
c) 25-30^{o}C

Ans. (b)

7. In shaped tube electrolytic machining tube material is made of
a) Copper
b) Brass

c) Titanium
d) Ceramic

Ans. (c)

8. Electrostream dwell drilling is used for
a) Deep hole drilling
b) Shallow hole drilling

Ans. (b)

9. During electrochemical grinding material is removed by
a) Mechanical abrasive action
b) Electrochemical dissolution
c) Both of them
d) None of them

Ans. (c)

10. In electrochemical grinding process performance increases under the effect of magnetic field in case of
a) Diamond wheel
b) Al_2O_3 wheel

Ans. (a)

11. In Shaped tool Electrostream drilling (STEM) the voltage rating is
a) 1-5 V
b) 20-25 V
c) 5-15 V
d) 16-20 V

Ans. (c)

12. In which one of the following processes, an oxide layer forms on the work surface?

a) Electrochemical grinding
b) Electrical discharge Machining
c) Electrochemical Machining
d) Ultrasonic Machining

Ans. (a), (c)

13. Tools and carbide tips are sharpened by

a) Electrical discharge Machining
b) Electrochemical grinding
c) Ultrasonic Machining

Ans. (b)

14. The main requirement of the property of the tool material in ECM is
    a) High Thermal conductivity
    b) Low thermal conductivity
    c) High electrical conductivity
    d) Low electrical conductivity

    Ans. (a), (c)

15. The material removal rate of workpiece in ECM is largely governed by
    a) Chemical properties of workpiece material
    b) Physical properties of workpiece material
    c) Mechanical properties of workpiece material

    Ans. (a)

16. The surface finish produced by ECM shows
    a) Low corrosion resistance
    b) Low wear resistance
    c) Low friction resistance
    d) Low fatigue strength

    Ans. (d)

17. The voltage rating during Electrostream drilling is in the range of
    a) 50 – 100 V
    b) 100 – 150 V
    c) 150 – 850 V
    d) 900 – 1200 V

    Ans. (c)

18. Equilibrium inter-electrode gap can be achieved in ECM only if
    a) Constant feed rate & increasing applied current
    b) Constant feed rate & constant applied current
    c) Decreasing feed rate & constant applied current

    Ans. (b)

19. Electrolyte's electrical conductivity value increases due to
    a) Temperature
    b) Size of hydrogen gas bubbles
    c) Distribution of hydrogen gas bubbles
    d) All of the above

    Ans. (a), (b)

20. Silicon controlled rectifiers are used in ECM to minimize damage due to spark
    a) True
    b) False

Ans. (a)