1. In Abrasive jet machining, nozzle diameter is 1 mm, jet velocity is 200m/s. find out volumetric flow rate of (cm³/s) of the carrier gas and abrasive mixture, $V_{avg}$?
   a. 152.8 
   b. 158.5 
   c. 185.4 
   d. 171.5  
   (Ans: b)

2. In AWJM, increase in Stand-off-distance results in
   a. (a) Higher depth of cut 
   b. (b) Lower depth of cut 
   c. (c) Not significant effect is observed 
   (Ans: b)

3. AWJM can be used to cut
   a. (a) Metals 
   b. (b) Non-metals  
   c. (c) Both a & b  
   (Ans: c)

4. For longer life of nozzle in AWJM, what type of material is used
   a. (a) Tungsten carbide  
   b. (b) Sapphire  
   c. (c) Boron carbide  
   d. (d) Stainless steel  
   (Ans: b)

5. Abrasive water jet machining and abrasive jet machining are two different names for the same process:
   a. (a) True 
   b. (b) False  
   (Ans: b)

6. In abrasive water jet machining, the abrasive particles are added to the water stream
   a. (a) After it exits the nozzle  
   b. (b) Before it enters the pumping unit  
   c. (c) Just before it enters the nozzle  
   d. (d) While it is in the nozzle  
   (Ans: b)
7. Abrasive jet machining is best suited to machine
   (a) Brittle materials
   (b) Heat sensitive materials
   (c) Soft materials
   (d) All the above

   (Ans: d)

8. In AWJM, the mixing efficiency of both water and abrasives were maximum in
   (a) Single jet side feed nozzle
   (b) Multiple jets central feed nozzle
   (c) Both

   (Ans: b)

9. In AJM process, the ratio of density of abrasive to density of carrier gas is equal to 30.
   Mixing ratio used is 0.2. Now calculate the mass ratio
   (a) 0.80
   (b) 0.85
   (c) 0.90
   (d) 0.95

   (Ans: b)

10. Brass rod cannot be finished by Magnetic abrasive finishing (MAF) because it is non-magnetic in nature
    (a) True
    (b) False

    (Ans: b)

11. MAF process can be used to finish on ______ surfaces
    (a) External cylindrical surfaces
    (b) Internal cylindrical surfaces
    (c) Flat surfaces
    (d) All of the above

    (Ans: d)
12. In MAF process, machining depth _________ with increased magnetic flux intensity 
and _________ with the increased in working gap.
(a) Decreases, increases
(b) Increases, decreases
(c) Increases, increases
(d) Decreases, decreases

(Ans: b)

13. Bonded magnetic abrasives in MAF process results in
(a) Higher removal rates
(b) Poorer surface finish
(c) Better surface finish

(Ans: c)

14. In MAF, surface finish can be improved by
(a) Higher relative speed
(b) Smaller working clearance
(c) Increased flux density
(d) All of the above

(Ans: d)

15. The material removal mechanism in AWJM is
(a) Melting and vaporisation
(b) Erosion or localised stress fields
(c) Ion displacement
(d) Spark erosion

(Ans: b)

16. In which process Catcher is used
(a) USM
(b) MAF
(c) AWJM
(d) AJM

(Ans: C)

17. In which process, Al₂O₃ can be used as an abrasive grain
(a) AJM
(b) USM
(c) MAF
(d) All of the above

(Ans: d)

18. The minimum velocity required for machining a glass by SiC particles (size: 25 microns) in AJM is to be
   (a) 70 m/s
   (b) 100 m/s
   (c) 150 m/s
   (d) 175 m/s

   (Ans: c)

19. With an increase in abrasive particle size in AJM
   (a) MRR as well as surface finish increase
   (b) MRR decreases but surface finish increases
   (c) MRR increases but surface finish decreases.
   (Ans. (c))

20. When a thick material is to be cut by WJC, one should prefer
   (a) very powerful jet and single pass cutting
   (b) multipass cutting
   (c) low stand-off-distance
   (d) all of these

   Ans. (b)