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Subject Name & Code : Unconventional Machining Processes (PEME703A) Exam Name : Q1

1. Which of the following is a primary reason for using non-conventional machining processes? [B]

A) High material removal rate B) machining hard and brittle materials C) Low precision D) Low cost of equipment

2. Non-conventional machining processes are typically used when: [D]

A) Traditional methods are too slow B) Workpiece material is too hard C) Complex shapes are required D) All of the mentioned

3. Which characteristic of a material would most likely necessitate the use of non-conventional machining? [C]

A) Low hardness B) High thermal conductivity C) High melting point D) Low cost

4. A key advantage of non-conventional machining over traditional methods is: [B]

A) Lower operational cost B) Ability to machine without generating heat C) Simplicity of equipment D) Higher material removal rate

5. Which of the following is NOT typically a consideration when selecting a non-conventional machining process? [C]

A) Material properties B) Desired surface finish C) Availability of cutting fluids D) Complexity of the workpiece shape

6. Non-conventional machining is often selected for materials that are: [B]

A) Easy to machine with conventional methods B) Hard and difficult to machine C) Low melting point materials D) Soft and ductile

7. One of the main needs for non-conventional machining processes is to [C]

A) Reduce machining time B) Enhance tool wear C) Achieve complex geometries D) Lower power consumption

8. Which non-conventional machining process is particularly suited for machining intricate shapes and fine details? [A]

A) Electric Discharge Machining (EDM) B) Ultrasonic Machining (USM) C) Laser Beam Machining (LBM) D) Water Jet Machining (WJM)

9. In the selection of a non-conventional machining process, the complexity of the workpiece geometry affects: [C]

A) Choice of material B) Machining speed C) Type of machining process D) Operator skill level

10. Which non-conventional machining process is suitable for materials that are poor conductors of electricity? [C]

A) EDM (Electrical Discharge Machining) B) ECM (Electrochemical Machining) C) USM (Ultrasonic Machining) D) LBM (Laser Beam Machining)

11. One of the critical factors influencing the selection of a non-conventional machining process is: [B]

A) Availability of skilled labor B) Machining environment C) Energy consumption D) Tool material

12. Non-conventional machining processes are often selected for their ability to: [C]

A) Reduce material costs B) Increase tool wear C) Achieve high precision and surface finish D) Simplify operations

13. Which non-conventional machining process involves material removal through a thermal mechanism? [B]

A) USM (Ultrasonic Machining) B) EDM (Electrical Discharge Machining) C) WJM (Water Jet Machining) D) ECM (Electrochemical Machining)

14. Non-conventional machining processes are essential for: [C]

A) Machining low-strength materials B) High-volume production C) Machining materials with complex internal structures D) Achieving rough surface finishes

15. In selecting a non-conventional machining process, the material removal rate is crucial because it affects: [B]

A) Surface roughness B) Production time and cost C) Tool life D) Operator safety

16. Which factor is less critical in the selection of a non-conventional machining process? [C]

A) Workpiece hardness B) Electrical properties C) Workpiece color D) Desired surface finish

17. The ability to machine without applying large forces is an advantage of non-conventional machining, especially for [B]

A) Ductile materials B) Brittle materials C) Soft materials D) Low-density materials

18. Non-conventional machining processes are selected based on their ability to [C]

A) Reduce environmental impact B) Increase energy efficiency C) Machine materials regardless of their hardness and toughness D) Lower the initial investment cost

19. Which of the following non-conventional machining processes is best suited for producing micro-features? [C]

A) ECM (Electrochemical Machining) B) EDM (Electrical Discharge Machining) C) LBM (Laser Beam Machining) D) USM (Ultrasonic Machining)

20. The need for non-conventional machining processes increases with the demand for [C]

A) Standardized components B) High surface roughness C) Miniaturized and highly precise parts D) Low-cost production

21. What is the primary mechanism of material removal in Ultrasonic Machining (USM)? [B]

A) Chemical reaction B) Mechanical abrasion C) Thermal melting D) Electrical discharge

22. The tool in USM vibrates at a frequency typically in the range of [C]

A) 1-10 Hz B) 100-500 Hz C) 10-50 kHz D) 1-5 MHz

23. Which type of abrasive particles is commonly used in USM? [D]

A) Diamond B) Aluminum oxide C) Silicon carbide D) All of the mentioned

24. USM is most effective for machining: [B]

A) Soft materials B) Hard and brittle materials C) Conductive materials D) Ductile materials

25. The ultrasonic vibrations in USM are generated by: [B]

A) Electrical motor B) Piezoelectric transducer C) Hydraulic system D) Mechanical oscillator

26. Which of the following is a typical application of USM? [A]

A) Drilling micro-holes in glass B) Cutting thick metal plates C) Welding plastic parts D) Surface finishing of polymers

27. What is the primary advantage of USM over traditional machining methods? [C]

A) High material removal rate B) Low tool wear C) Ability to machine hard and brittle materials D) High surface finish

28. The abrasive slurry used in USM typically consists of [A]

A) Water and abrasives B) Oil and abrasives C) Gas and abrasives D) Solid lubricants and abrasives

29. In USM, the amplitude of the tool vibration is generally in the range of [B]

A) 1-10 nm B) 10-50 µm C) 1-5 mm D) 10-50 cm

30. Which parameter does NOT significantly affect the material removal rate in USM [B]

A) Abrasive size B) Tool material C) Vibration frequency D) Amplitude of vibration

31. USM is particularly suitable for machining [C]

A) Ductile metals B) Ceramics and glass C) soft polymers D) All of the mentioned

32. The tool wear in USM is generally: [B]

A) Higher than in traditional machining B) Lower than in traditional machining C) Negligible D) Dependent on tool material

33. In USM, the material removal rate is primarily influenced by [D]

A) Tool hardness B) Workpiece hardness C) Abrasive concentration D) All of the mentioned

34. Which of the following materials is least likely to be machined using USM [D]

A) Glass B) Diamond C) Steel D) Rubber

35. The feed rate in USM is typically: [C]

A) Very high B) High C) low D) Negligible

36. The ultrasonic frequency used in USM is typically in the range of: [B]

A) 1-10 Hz B) 20-40 kHz C) 1-5 MHz D) 10-100 GHz

37. USM is commonly used for [B]

A) Machining soft plastics B) Machining hard and brittle materials C) Machining ductile metals D) Machining rubber

38. In USM, the tool material is typically [A]

A) Softer than the workpiece material B) Harder than the workpiece material C) The same hardness as the workpiece material D) Irrelevant to the hardness of the workpiece material

39. The main disadvantage of USM is [B]

A) High tool wear B) Low material removal rate C) High thermal impact D) High electrical consumption

40. In USM, which component is responsible for converting electrical energy into mechanical vibrations? [B]

A) Abrasive particles B) Piezoelectric transducer C) Tool holder D) Workpiece

41. Which type of motion is imparted to the tool in USM? [C]

A) Rotational motion B) Linear motion C) Ultrasonic vibrations D) Oscillatory motion

42. USM is typically NOT used for machining: [C]

A) Glass B) Ceramics C) Polymers D) Composites

43. The slurry in USM serves the purpose of [C]

A) Cooling the tool B) Lubricating the workpiece C) Carrying abrasive particles D) Enhancing tool wear

44. The ultrasonic vibration amplitude in USM is typically in the range of [B]

A) 1-10 nm B) 10-50 μm C) 1-5 mm D) 10-50 cm

45. In USM, the abrasive particles are typically in the size range of [B]

A) 1-10 nm B) 10-100 μm C) 1-10 mm D) 10-100 cm

46. USM is most effective for: [D]

A) Drilling B) Cutting C) Surface finishing D) All of the mentioned

47. Which of the following is NOT a typical characteristic of USM? [B]

A) High precision B) High material removal rate C) Low thermal impact D) Ability to machine hard and brittle materials

48. In USM, the tool is typically made of: [C]

A) Tungestine B) Diamond C) Soft steel D) Aluminium oxides

49. Which of the following is a major advantage of USM? [A]

A) Ability to machine complex shapes B) High material removal rate C) High thermal impact D) High tool wear

50. In USM, the workpiece is usually held: [A]

A) Stationary B) In a rotating fixture C) In a vibrating fixture D) In a magnetic chuck

51. Which of the following is NOT an application of USM? [B]

A) Drilling micro-holes B) Cutting thick steel plates C) Engraving hard materials D) Surface finishing of ceramics

52. The feed mechanism in USM is typically: [B]

A) Manual B) Hydraulic C) Pneumatic D) None of the mentioned

53. In USM, the slurry circulation is typically achieved by: [B]

A) Gravity flow B) Pumping system C) Manual stirring D) Centrifugal force

54. The primary disadvantage of USM compared to other unconventional machining processes is: [D]

A) High tool wear B) Low precision C) High material removal rate D) Limited to hard and brittle materials

55. The tool in USM is typically: [C]

A) Harder than the workpiece B) Softer than the workpiece C) Of the same hardness as the workpiece D) Made of diamond

56. Which of the following is a common abrasive used in USM? [B]

A) Sand B) Silicon carbide C) Copper D) Wood

57. USM can be used to machine: [C]

A) Metals only B) Non-metals only C) Both metals and non-metals D) Only polymers

58. In USM, the abrasive particles are suspended in: [B]

A) Air B) Water C) Oil D) Solid matrix

59. Which industry frequently uses USM for its machining processes? [D]

A) Textile B) Aerospace C) Food processing D) Ceramics

60. The main function of the piezoelectric transducer in USM is to: [B]

A) Generate heat B) Produce ultrasonic vibrations C) Provide cooling D) Supply abrasive particles

61. What is the primary principle behind electrochemical machining (ECM)? [C]

A) Mechanical abrasion B) Chemical dissolution C) Electrochemical anodic dissolution D) Thermal melting

62. Which electrolyte is commonly used in ECM processes? [B]

A) Sulfuric acid B) Sodium chloride solution C) Acetone D) Distilled water

63. What role does the workpiece play in the ECM process? [B]

A) Cathode B) Anode C) Neutral electrode D) Insulator

64. Which material property is essential for the tool used in ECM? [B]

A) High hardness B) High conductivity C) High brittleness D) Low melting point

65. In ECM, the removal of material occurs due to the formation of: [B]

A) Heat zones B) Electrolytic ions C) Corrosive layers D) Hydrogen bubbles

66. What is electrochemical grinding (ECG)? [A]

A) A hybrid process combining electrochemical machining and mechanical grinding B) A pure mechanical grinding process C) A heat-based cutting process D) A laser-based machining process

67. Which type of materials are typically machined using ECG? [B]

A) Soft plastics B) Hard metals and alloys C) Wood D) Ceramics

68. What is the main advantage of ECG over conventional grinding? [B]

A) Higher material removal rate B) Lower tool wear C) Greater surface roughness D) Increased heat generation

69. What is the role of the grinding wheel in ECG? [A]

A) Acts as a cathode and removes material B) Acts as an anode and removes material C) Acts purely as a conductor D) Acts as an insulator

70. What kind of electrolyte is used in ECG? [C]

A) Acidic solutions B) Alkaline solutions C) Neutral salts solutions D) Pure water

71. Electrochemical honing is a combination of ECM and: [B]

A) Electrical discharge machining (EDM) B) Abrasive honing C) Laser machining D) Water jet machining

72. What is the primary application of electrochemical honing? [B]

A) Rough cutting of metals B) Fine finishing and improving surface integrity C) Drilling large holes D) Welding materials

73. Which electrolyte concentration is typically used in electrochemical honing? [B]

A) High concentration B) Medium concentration C) Low concentration D) No electrolyte is used

74. In electrochemical honing, the material removal process is: [C]

A) Purely mechanical B) Purely electrochemical C) Combination of mechanical and electrochemical D) Thermal

75. Which of the following materials is best suited for electrochemical honing? [B]

A) Soft aluminum alloys B) Hard ferrous alloys C) Rubber D) Wood

76. What is the metal removal rate (MRR) in ECM primarily dependent on? [C]

A) Tool hardness B) Electrolyte concentration C) Applied current D) Workpiece temperature

77. How does the current density affect the MRR in ECM? [C]

A) Decreases MRR B) Has no effect on MRR C) Increases MRR D) Makes MRR unpredictable

78. Which factor does NOT significantly affect the MRR in ECM? [C]

A) Applied voltage B) Electrolyte flow rate C) Tool material D) Gap between tool and workpiece

79. What is the typical range of MRR in ECM? [B]

A) 0.01-0.1 mm^3/min B) 1-10 mm^3/min C) 10-100 mm^3/min D) 100-1000 mm^3/min

80. Which parameter can increase the efficiency of MRR in ECM? [C]

A) Lowering the temperature B) Increasing the gap between tool and workpiece C) Increasing the electrolyte flow rate D) Reducing the applied current

81. How does ECM achieve high surface finish? [C]

A) Through mechanical polishing B) By using abrasive slurries C) By controlled anodic dissolution D) By high-pressure water jets

82. Which factor contributes to the accuracy of ECM? [C]

A) High electrolyte viscosity B) Low current density C) Precise control of the tool feed rate D) High tool wear

83. What is the typical surface finish achievable with ECM? [B]

A) 1-2 µm B) 0.1-0.2 µm C) 10-20 µm D) 50-60 µm

84. Which of the following is a limitation of ECM in terms of accuracy? [A]

A) Overcut B) Undercut C) Surface roughness D) Micro cracks

85. Which surface finish characteristic is usually improved by ECM? [B]

A) Increased surface roughness B) Reduced tool marks C) Introduction of burrs D) Higher surface irregularities

86. Which of the following is a critical process parameter in ECM? [B]

A) Tool rotational speed B) Electrolyte composition C) Laser intensity D) Ultrasonic frequency

87. How does the gap between the tool and workpiece affect the ECM process? [C]

A) Larger gap increases material removal rate B) Smaller gap decreases accuracy C) Optimal gap ensures effective material removal and accuracy D) Gap has no effect on ECM

88. Which parameter needs to be carefully controlled to avoid short circuits in ECM? [B]

A) Voltage B) Current density C) Tool feed rate D) Electrolyte temperature

89. What is the role of electrolyte flow rate in ECM? [C]

A) To cool the workpiece B) To maintain the electrolyte conductivity C) To remove dissolved metal ions D) To insulate the workpiece

90. Which of the following parameters directly influences the machining accuracy in ECM? [C]

A) Tool material B) Electrolyte pH C) Voltage and current control D) Workpiece hardness

91. Which industry widely uses ECM for machining turbine blades? [B]

A) Automotive B) Aerospace C) Textile D) Food processing

92. What is a significant advantage of ECM in terms of tool wear? [C]

A) High tool wear B) Moderate tool wear C) No tool wear D) Constant tool wear

93. Why is ECM suitable for machining complex shapes? [C]

A) High thermal distortion B) High mechanical stress C) No contact between tool and workpiece D) Use of high-speed cutting tools

94. Which of the following is an advantage of ECM in terms of material properties? [C]

A) Alters the metallurgical properties B) Leaves residual stress C) Preserves the material properties D) Causes heat-affected zones

95. In which application is ECM particularly advantageous due to its burr-free machining capability? [D]

A) Wood carving B) Textile cutting C) Medical implants manufacturing D) Glass cutting

96. Which of the following is NOT an application of ECM? [B]

A) Machining hard metals B) Surface polishing of soft materials C) Sharpening of cutting tools D) Engraving on wooden surfaces

97. What is an environmental advantage of ECM? [B]

A) High energy consumption B) No harmful emissions C) Use of hazardous chemicals D) Generation of noise pollution

98. Which type of geometries can be easily machined using ECM? [C]

A) Simple geometries only B) Complex and intricate geometries C) Large flat surfaces D) Only cylindrical shapes

99. Why is ECM considered a sustainable manufacturing process? [B]

A) High resource consumption B) Minimal waste generation C) High carbon footprint D) Low efficiency

100. What is a major advantage of ECM over traditional machining processes? [C]

A) High tool wear B) Requires secondary finishing processes C) Ability to machine very hard materials without tool wear D) High heat generation

101. What is the primary principle behind thermal metal removal processes? [C]

A) Mechanical abrasion B) Chemical dissolution C) Thermal energy D) Electrochemical reaction

102. Which of the following processes is a thermal metal removal process? [B]

A) Electrochemical machining B) Laser cutting C) Water jet cutting D) Ultrasonic machining

103. What is the main advantage of thermal metal removal processes? [A]

A) High material removal rate B) Minimal thermal distortion C) No heat generation D) Low surface roughness

104. Which gas is commonly used in plasma arc cutting? [C]

A) Nitrogen B) Argon C) Oxygen D) Hydrogen

105. In which of the following processes is a high-velocity stream of ionized gas used to melt and remove material? [B]

A) Laser cutting B) Plasma arc cutting C) EDM D) Ultrasonic machining

106. What is the fundamental principle of EDM? [C]

A) Chemical reaction B) Electrochemical dissolution C) Erosion by spark discharges D) Mechanical cutting

107. Which type of materials can be machined using EDM? [A]

A) Only conductive materials B) Only non-conductive materials C) Both conductive and non-conductive materials D) Only brittle materials

108. What is the primary function of the dielectric fluid in EDM? [C]

A) To lubricate the workpiece B) To insulate the workpiece C) To cool the workpiece and flush away debris D) To increase the conductivity of the workpiece

109. Which of the following is a common application of EDM? [C]

A) Cutting wood B) Engraving glass C) Machining hard metals D) Welding plastics

110. What is the typical gap maintained between the tool and workpiece in EDM? [B]

A) 0.001-0.01 mm B) 0.01-0.1 mm C) 0.1-1 mm D) 1-10 mm

111. What is wire EDM primarily used for? [B]

A) Drilling holes B) Cutting complex shapes C) Surface finishing D) Coating surfaces

112. In wire EDM, what is the wire typically made of? [C]

A) Steel B) Copper C) Brass D) Aluminum

113. How does wire EDM differ from conventional EDM? [B]

A) Uses a rotating tool B) Uses a wire as the cutting electrode C) Does not use dielectric fluid D) Involves mechanical cutting

114. What is the primary advantage of wire EDM? [B]

A) Low material removal rate B) High accuracy and precision C) Low setup cost D) High tool wear

115. Which industries commonly use wire EDM? [B]

A) Textile B) Aerospace C) Food processing D) Agriculture

116. What happens to the material during the spark discharge in EDM? [C]

A) It is chemically dissolved B) It is mechanically abraded C) It is melted and vaporized D) It is compressed

117. How is the spark generated in EDM? [C]

A) By a rotating tool B) By high-frequency ultrasonic waves C) By a voltage difference between the tool and workpiece D) By mechanical contact

118. What is the effect of increasing the discharge current in EDM? [B]

A) Decreases the material removal rate B) Increases the material removal rate C) Reduces the surface finish quality D) Increases the tool wear

119. Which parameter directly affects the spark energy in EDM? [C]

A) Tool rotation speed B) Dielectric fluid viscosity C) Voltage and current D) Workpiece material hardness

120. What is the main disadvantage of high-energy sparks in EDM? [C]

A) Increased machining time B) Lower material removal rate C) Poor surface finish D) Decreased tool wear

121. Which of the following is a critical process parameter in EDM? [B]

A) Electrolyte concentration B) Discharge current C) Tool rotational speed D) Workpiece temperature

122. How does the pulse duration affect the EDM process? [B]

A) Longer pulses increase material removal rate B) Shorter pulses improve surface finish C) Longer pulses decrease tool wear D) Shorter pulses increase machining time

123. What role does the dielectric fluid play in EDM? [C]

A) Increases the temperature B) Provides lubrication C) Acts as an insulator and cools the workpiece D) Decreases electrical conductivity

124. Which factor can reduce tool wear in EDM? [C]

A) Higher discharge current B) Longer pulse duration C) Using a harder tool material D) Lower voltage

125. What is the typical range of pulse frequency in EDM? [C]

A) 1-10 Hz B) 10-100 Hz C) 100-1000 Hz D) 1000-10000 Hz

126. What material is commonly used for EDM tool electrodes? [B]

A) Wood B) Graphite C) Plastic D) Glass

127. Why is copper a preferred material for EDM electrodes? [B]

A) Low cost B) High electrical conductivity and wear resistance C) High melting point D) Low thermal conductivity

128. How does the tool electrode material affect machining accuracy in EDM? [A]

A) Higher conductivity materials improve accuracy B) Lower conductivity materials improve accuracy C) Tool material has no effect on accuracy D) Softer tool materials improve accuracy

129. What is the effect of using a high melting point electrode material in EDM? [B]

A) Increases tool wear B) Decreases tool wear C) Reduces material removal rate D) Increases surface roughness

130. Which characteristic is important for tool electrodes used in precision EDM? [C]

A) High brittleness B) High electrical resistance C) Good machinability and wear resistance D) High thermal expansion

131. What is a common characteristic of the surface produced by EDM? [B]

A) Highly polished finish B) Presence of micro-cracks and recast layer C) No heat-affected zone D) Extremely smooth surface

132. How can the surface roughness in EDM be reduced? [B]

A) Increasing discharge current B) Decreasing pulse duration C) Using a coarser electrode D) Increasing machining speed

133. What is the effect of the recast layer on the EDM machined surface? [C]

A) Improves surface finish B) Reduces surface hardness C) Increases surface roughness and hardness D) Enhances material removal rate

134. Which method can be used to remove the recast layer after EDM? [B]

A) Mechanical polishing B) Chemical etching C) Ultrasonic cleaning D) Thermal treatment

135. What is the typical thickness of the recast layer in EDM? [B]

A) 0.1-1 μm B) 1-10 μm C) 10-100 μm D) 100-1000 μm

136. How does the presence of micro-cracks affect the EDM machined surface? [C]

A) Increases fatigue resistance B) Decreases surface roughness C) Reduces mechanical strength D) Improves electrical conductivity

137. What is one way to minimize micro-cracks in EDM? [C]

A) Using higher discharge energy B) Reducing the pulse frequency C) Using low-energy discharges and fine finishing conditions D) Increasing machining speed

138. Which property of the dielectric fluid affects the characteristics of the spark eroded surface? [D]

A) Electrical conductivity B) Viscosity C) Thermal conductivity D) Chemical composition

139. What is the impact of high-energy sparks on the EDM machined surface? [B]

A) Produces smoother surface B) Increases surface roughness and recast layer thickness C) Decreases machining accuracy D) Reduces tool wear

140. Which surface characteristic is typically improved by using fine finishing in EDM [A]

A) Surface roughness B) Material hardness C) Electrical conductivity D) Thermal conductivity

141. Which of the following is a primary advantage of EDM over conventional machining? [B]

A) Lower material removal rate B) Ability to machine very hard materials C) Higher tool wear D) Requires frequent tool changes

142. What is the main disadvantage of EDM in terms of environmental impact? [B]

A) High noise levels B) Generation of hazardous waste C) High energy consumption D) Production of harmful emissions

143. Which parameter can be adjusted to control the depth of material removal in EDM? [B]

A) Pulse frequency B) Discharge current C) Dielectric fluid type D) Tool rotation speed

144. How does the pulse interval affect the EDM process? [A]

A) Shorter intervals increase material removal rate B) Longer intervals reduce tool wear C) Shorter intervals improve surface finish D) Longer intervals increase machining speed

145. What is the typical shape of the craters formed on the EDM machined surface? [B]

A) Square B) Circular C) Triangular D) Irregular

146. Which factor primarily determines the size of the craters in EDM? [C]

A) Tool material B) Dielectric fluid flow rate C) Discharge energy D) Workpiece temperature

147. What is the effect of using a higher pulse frequency in EDM? [C]

A) Decreases material removal rate B) Increases tool wear C) Improves surface finish D) Increases machining speed

148. Which parameter is used to achieve high precision in wire EDM? [A]

A) Low wire feed rate B) High discharge current C) Thick wire diameter D) High pulse duration

149. What is the main reason for using dielectric fluid in EDM? [B]

A) To increase the spark energy B) To cool and flush away debris C) To increase tool wear D) To reduce electrical conductivity

150. How does the selection of tool electrode material affect the EDM process? [B]

A) Harder materials increase tool wear B) Conductive materials improve machining accuracy C) Softer materials increase material removal rate D) Insulating materials reduce tool wear

151. What is a common application of wire EDM? [A]

A) Cutting intricate shapes in hard metals B) Drilling deep holes C) Surface finishing of soft materials D) Welding thin sheets

152. Which of the following affects the machining time in EDM? [A]

A) Pulse frequency B) Tool material C) Workpiece temperature D) Dielectric fluid type

153. What is the effect of using a higher voltage in EDM? [A]

A) Increases material removal rate B) Reduces surface roughness C) Decreases tool wear D) None of the mentioned

154. Which factor can improve the surface finish in EDM? [C]

A) Higher discharge current B) Longer pulse duration C) Lower pulse energy D) Higher machining speed

155. How does the electrode shape affect the EDM process? [B]

A) Complex shapes increase material removal rate B) Simple shapes improve surface finish C) Irregular shapes increase tool wear D) None of the mentioned

156. What is a significant advantage of using graphite as an EDM electrode material? [B]

A) Low cost B) High electrical conductivity C) High tool wear D) Low melting point

157. Which of the following is true about the spark gap in EDM? [C]

A) Smaller gap increases material removal rate B) Larger gap improves surface finish C) Optimal gap ensures effective material removal and accuracy D) Gap size has no effect on the process

158. What is the impact of dielectric fluid contamination in EDM? [B]

A) Improves machining accuracy B) Reduces material removal rate C) Increases tool wear D) Decreases spark energy

159. How does the use of multiple electrodes affect the EDM process? [A]

A) Increases material removal rate B) Reduces surface roughness C) Decreases tool wear D) Increases machining time

160. Which industry commonly uses EDM for creating molds and dies? [B]

A) Textile B) Automotive C) Food processing D) Agriculture