

***** EXAMINATION *****

COMBUSTION OF A POLYMER SPHERE IN MICROGRAVITY

1. **A cabin designed to support life and used for transporting**
 - a) human beings in earth's high altitudes is a space capsule
 - b) human beings in earth's high altitudes is a bullet train
 - c) human beings in earth's high altitudes is an aerobus
 - d) human beings in earth's high altitudes is a jet plane

2. **The process in which the atoms of a surface are removed**
 - a) through bombardment by ions is bubbling
 - b) through bombardment by ions is sputtering
 - c) through bombardment by ions is swelling
 - d) through bombardment by ions is melting

3. **The increase of volume of a material due to absorption of a**
 - a) solvent is bubbling
 - b) solvent is sputtering
 - c) solvent is swelling
 - d) solvent is melting

4. **The physical process that results in the phase change of a**
 - a) substance from a solid to a liquid is bubbling
 - b) substance from a solid to a liquid is sputtering
 - c) substance from a solid to a liquid is swelling
 - d) substance from a solid to a liquid is melting

5. **A sodium silicate used in heat protection and in packings**
 - a) and compensators is silica fiber
 - b) and compensators is silica gel
 - c) and compensators is silica fume
 - d) and compensators is hydrophobic silica

6. **The type of quadric surface that is a higher dimensional**
 - a) analogue of an ellipse is a spheroid
 - b) analogue of an ellipse is an ellipsoid
 - c) analogue of an ellipse is a paraboloid
 - d) analogue of an ellipse is a cone

7. **The acceleration induced by gravity has little or no**
- a) measurable effect is gravitational constant
 - b) measurable effect is gravitational shielding
 - c) measurable effect is gravitational acceleration
 - d) measurable effect is microgravity
8. **A Kepler orbit with the eccentricity equal to 1 is**
- a) in a hyperbolic trajectory
 - b) in an orbital eccentricity
 - c) in a parabolic trajectory
 - d) in a mean longitude
9. **The three terminal resistors with a sliding contact that**
- a) forms an adjustable voltage divider is potentiometer
 - b) forms an adjustable voltage divider is trimmer
 - c) forms an adjustable voltage divider is memristor
 - d) forms an adjustable voltage divider is thermistor
10. **The first organic peroxide prepared by intentional synthesis**
- a) is carbamide peroxide
 - b) is benzoyl peroxide
 - c) is acetone peroxide
 - d) is diethyl ether peroxide
11. **The electromechanical valve for use with liquid or gas is the**
- a) rotolock valve
 - b) blowoff valve
 - c) solenoid valve
 - d) plug valve
12. **The device that converts low voltages to the high voltages**
- a) required by the spark plugs is a Helmholtz coil
 - b) required by the spark plugs is a bifilar coil
 - c) required by the spark plugs is a Maxwell coil
 - d) required by the spark plugs is an ignition coil
13. **A colorless liquid, the methyl ester of methacrylic acid, is**
- a) methylmethacrylate
 - b) ethylcyanoacrylate
 - c) glycidylmethacrylate
 - d) butylcyanoacrylate
14. **The geometry of the two dimensional surface of a sphere is**
- a) Euclidean geometry
 - b) spherical geometry
 - c) hyperbolic geometry
 - d) affine geometry

15. **The resin that has high temperature stability and is used in**
- a) plastics, paints and adhesives is silicon resin
 - b) plastics, paints and adhesives is cutlers resin
 - c) plastics, paints and adhesives is phenolic resin
 - d) plastics, paints and adhesives is ion-exchange resin
16. **A rubbery synthetic polymer, partially and completely**
- a) hydrolysed, is cellulose acetate
 - b) hydrolysed, is isobutyl acetate
 - c) hydrolysed, is isoamyl acetate
 - d) hydrolysed, is polyvinyl acetate
17. **The acetate ester of cellulose used as a component in**
- a) some adhesives is cellulose acetate
 - b) some adhesives is isobutyl acetate
 - c) some adhesives is isoamyl acetate
 - d) some adhesives is polyvinyl acetate
18. **The polymer containing monomers of amides joined by peptide**
- a) bonds is a polybutene
 - b) bonds is a polyamide
 - c) bonds is a polylysine
 - d) bonds is a polycarbophil
19. **A common piece of laboratory equipment that produces a**
- a) single open gas flame is the gas pycnometer
 - b) single open gas flame is the centrifugal evaporator
 - c) single open gas flame is the Bunsen burner
 - d) single open gas flame is the hot air oven
20. **The device that removes gas molecules from a sealed volume**
- a) to leave behind a partial vacuum is a vacuum tube
 - b) to leave behind a partial vacuum is a vacuum flange
 - c) to leave behind a partial vacuum is a vacuum angle
 - d) to leave behind a partial vacuum is a vacuum pump

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