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UNIT – III
Synthetic Organic Polymers and Nanomaterials

Q. 1. Polycarbonates are…..
a. Polyamides
b. Polyether
c. Polyenes
d. Polyesters

Ans: d.

Q. 2. BIOPOL is common name of …….polymer.
a. PPF
b. PHBV
c. PPV
d. Both of a & b

Ans: b.

Q. 3. n- doping and p-doping of conducting polymer is done by…… &……..respectively.
a. I_2 & $FeCl_3$
b. I_2 & Li
c. $FeCl_3$ & I_2
d. Li & I_2

Ans: b.

Q. 4. Polyacetylene in undoped state acts as…..
a. good conducting polymer
b. insulator
c. semiconductor
d. none of these.
Ans: c.

Q. 5. Out of following which one acts as plasticizer?
a. phenol
b. Tricresyl phosphate
c. phthalate esters
d. both b and c

Ans: d.

Q. 6. In LED of polyphenylene vinylene .....acts as anode
a. Calcium
b. Magnesium
c. Aluminium
d. Indium tin oxide
Ans: d.

Q. 7. Trans –polyacetylene has ……conductivity than its cis isomer.
a. higher
b. less
c. equal
d. very less

Ans: a.

Q. 8. Lexan is nothing but….
a. PPV
b. Polyisoprene
c. Kevlar
d. Polycarbonate

Ans: d.

Q. 9. CDs and DVDs can be made by using……
a. Polycarbonate
b. PPV
c. PHBV
d. Kevlar

Ans: a.

Q. 10. Kevlar is…….type of liquid crystal.
a. Smectic
b. Cholesteric
c. Thermotropic
d. Lyotropic

Ans: d.

Q. 11. Which of the following is not true for PPV?
a. It is diamagnetic material
b. It shows yellow-green fluorescence.
c. Its conductivity increases on doping
d. It is water soluble
Ans: d

Q. 12. Electroluminescence of PPV is due to….
a. Conjugated pi bond system
b. Doping
c. Combination of holes and electrons
d. None of these

Ans: c

Q. 13. Which of the following application does not belong to PHBV (HB-HV- Copolymer)?
a. Structural material
b. Drug delivery
c. Internal suture
d. Packing

Ans: a

Q. 14. Nanomaterials are the materials in which size of particles ranges from----
(a)1nm-100nm
(b) 1cm-100cm
(c) 1mm-100mm
(d) 1m-100m

Ans. a

Q. 15. Zero dimensional nanomaterials are----

(a)CNT
(b) Quantum dots
(c) C60
(d) all of these

Ans. b

Q. 16. Nanowires are -dimensional nanomaterials
(a) 0D
(b) 1D
(c) 2D
(d) 3D

Ans. b

Q. 17. Nanoplates are----nanomaterials
(a) 0D
(b) 1D
(c) 2D
(d) 3D

Ans. c

Q. 18. The transparent and flexible conductor used in photovoltaic devices is-
(a) Fullerenes
(b) CNTs
(c) Quantum dots
(d) Graphene

Ans. d

Q. 19. A single layer of carbon atoms organized in a hexagonal lattice is called as-
(a) Graphite
(b) CNT
(c) Fullerene
(d) Graphene

Ans. d

Q. 20. All the carbon atoms in Graphene are ---
------- hybridized
(a) sp
(b) sp^2
(c)sp^3
(d) none of these

Ans. b

Q. 21. Graphene is ------ hexagonal lattice
(a) 0D
(b) 1D
(c) 2D
(d) 3D

Ans. c

Q. 22. Graphene is ------ conductor of electricity
(a) Good
(b) Bad
(c) Semi
(d) None of these

Ans. a

Q. 23. Zigzag and armchair CNTs are -----
(a) Chiral
(b) Achiral
(c) twisted
(d) None of these

Ans. b

Q. 24. Which type of CNTs shows Chiral structure?
(a) Zigzag

(b) armchair
(c) helical
(d) MWCNT

Ans. c

Q. 25. Carbon atoms in CNT are _____hybridized
(a)sp
(b) sp^2
(c)sp^3
(d) none of these

Ans. b

Q. 26. Which nanomateral is used as the nanocylinders for H_2 storage?
(a) Quantum dots
(b) graphene
(c) fullerene
(d) CNT

Ans. d

Q. 27. The nanoparticles of cadmium selenide and Indium arsenide are known as ----
(a) Quantum dots
(b) CNT
(c) Graphene
(d) nanowire

Ans. a

Q. 28. Larger Quantum dots 5-6nm emits longer wavelength with colors----
(a) Blue and green
(b) orange and red
(c) Blue and red
(d) green and red

Ans b

Q. 29. Smaller quantum dots emit shorter wavelength with colors----
(a) Blue and green
(b) orange and red
(c) Blue and red
(d) green and red

Ans. a

Q. 30. Which nanomaterials are used to improve existing LED design/
(a) CNT
(b) Graphene
(c) Quantum dots
(d) none of these

Ans. c

Q. 31. If a quantum dot material is coupled with an organic dye yields -----
(a) Fluorescent dye
(b) inorganic dye
(c) traditional dye
(d) none of these

Ans. a

Q. 32. Which nanomaterial is used in LED displays?
(a) CNT
(b)graphene
(c) fullerene
(d) Quantum dots

Ans. d

Q. 33. Why quantum dots show color glow when illuminated by UV light?
(a) Fluorescent nanoparticles
(b) 1D nanoparticle
(c) 2D nanoparticle
(d) none of these

Ans. a

Q. 34. Which nanomaterials are used for Filtration?
(a) CNT
(b)graphene
(c) fullerene
(d) Quantum dots

Ans. a

Q. 35. Gold nanoparticles shows which magnetic properties-
(a) Diamagnetic

(b) ferromagnetic
(c) non magnetic
(d) none of these

Ans. b

Q. 36. The gold based CNT nanowires are selective and sensitive to detection of-
(a) ZnO
(b) CO
(c) H_2S
(d) NH_3

Ans. c

Q. 37. In power plant emissions which nanomaterials used as air pollution filter?
(a) CNT
(b)graphene
(c) fullerene
(d) Quantum dots

Ans. a

38. Armchair and zigzag CNT are the types of-
(a) SWCNT
(b) MWCNT
(c) Helical CNT
(d) None of these

Ans. a

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