

X – STD
SCIENCE EXAM(QUARTERLY EXAM)
(ANSWER KEY)

21-09-2016 (2016)

I.CHOOSE IT :

- 1.(b)DNA 2.(b)Euglena 3.(b)Bacteria 4.(d)HIV 5.(C) Thymosin hormone
 6.(b)Grass 7.(d)Ovule 8.(b) 20g 9.(a)Helium-Oxygen
 10.(b)Green to black 11.(d)Sorenson 12.(b)sun 13.(c)392N
 14.(c) electric energy 15.(a)greater than 82

II.2 MARKS

16. genes, alleles
 17. Expression of morphological characters as tall or dwarf plant, violet or white flower is called **Phenotype**. The expression of gene (or genetic make up) of an individual for a particular trait is called **Genotype**.
 18. (d) Interferon – Antiproteins of bacteria
 19. **Triple antigen**- vaccines produced against bacteria are called Triple Antigen **Diseases**- Diphtheria, Pertussis, Tetanus
 20. True,False,True,False
 21.Typhoid- Salmonella typhi ;
 Amoebic dysentery- Entamoeba histolytica
 22. The dorsal portion of the midbrain consists of four hemispherical bodies called corporaquadrigenina **Functions**; It controls and regulates various visual reflexes and optical orientation.
 23.(a) Both 'A' and 'R' are true and 'R' explains 'A'
 24. unipolar,bipolar,multipolar
 25.

s.no	Asexual	Sexual
1	Takes place by spores	two gametes (male and female) are fused to produce offspring
2.	In lower group of plants,animals	In Higher group of plants,animals

- 26.Whole inflorescence, Aggregate fruit
 27.a) A- Gynoecium ; B- Fruit b) Ovary into fruit
 28.phytoplanktons-zooplanktons-small fish-kingfishers
 29.Bio-degradable- wood,paper,grass ; non-biodegradable - plastics
 30. **Alternatives to Petroleum – based Vehicle Fuels**
 1. Internal combustion engines (biofuel or combustion hydrogen)
 2. Electricity (for e.g. all electric (or) hybrid vehicles), compressed air or fuel cells(hydrogen fuel cells).
 3. Compressed natural gas used by natural gas vehicles. **(ANY 2 POINTS)**
 31. Formula – 1mark ; 37.5% – 1mark
 32. Any two points (2m)
 33. **Brownian movement**: The phenomenon by which the colloidal particles are in continuous random motion is called Brownian movement

34. **Non-aqueous Solution:** The solution in which any liquid other than water acts as a solvent is called non-aqueous solution.

Example for non-aqueous solution.(Benzene, ether, carbon-disulphide(CS_2))

35. An atom may or may not exist freely; H_2O is hetero atomic molecules.

36. $2(\text{H}) = 2 \times 1 = 2$; $1(\text{O}) = 1 \times 16 = 16+2 = 18$

\therefore Gram molecular mass of $\text{H}_2\text{O} = 18\text{g}$

37. using the formula, Molecular Mass /Atomic mass= $28/14=2$

38. $\text{pOH} = -\log_{10} [\text{H}^+]$ $\text{pOH} = -\log_{10} (0.001)$ $\text{pH} = -\log_{10} (10^{-3})$

$= -(-3) \log [\log 10 = 1]$ $\text{pOH} = 3$; $\text{pH} = 14 - \text{pOH}$; $\text{pH} = 11$

39. $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$

40. Silver Bromide (NaBr), Combination reaction

41. We know, force $F = ma$ Given $m_1 = 2 \text{ kg}$; $a_1 = 4 \text{ m s}^{-2}$; $m_2 = 3 \text{ kg}$; $a_2 = 2 \text{ m s}^{-2}$

$F_1 = m_1 a_1 = 2 \times 4 = 8 \text{ N}$ and $F_2 = m_2 a_2 = 3 \times 2 = 6 \text{ N}$ $\sim F_1 > F_2$

Therefore, accelerating a 2 kg mass at 4 m s⁻² would require a greater force.

42. Salyut 6 and Salyut 7, a change was introduced. These were built with two docking ports. They allowed a second crew to visit, carrying a new space-craft with them.

43. 1kilogram , two different bodies

44. The output of a single windmill is quiet small and cannot be used for Commercial purposes. It requires no recurring expenses for the production of Electricity. The wind speed should be higher than 15 km per hour to maintain the required speed of the turbine

45 .Lead di oxide , Zinc

46. The equivalent resistance between A and B. is 5 Ω

47. The following precautions are to be taken by those, who are working in radiation laboratories. (i) Radioactive materials are to be kept in thick-walled lead container. (ii) Lead aprons and lead gloves are to be used while working in hazardous area. (iii) A small micro-film badge is to be always worn by the person and checked periodically for the safety limit of radiation. (iv) Nuclear devices can be operated using remote control system. (v) Clean up contamination in the work area promptly .(ANY 2 POINTS)

PREPARED FOR THE BETTERMENT OF ALL CHILDREN

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