**PLANT PHYSIOLOGY – SCIENTISTS CONTRIBUTION**

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| --- | --- |
| **Column-I** | **Column-II** |
| 1.Priestley (1916)  2.Levitt (1974)  3.J.D. Sayre Steward  4.Munch’s  5.Dixon and Joly  6.Curtis  7.Calvin  8.Singer(1974,75)  9.Julius Von Sach  10.PRIESTLEY  11.Ingenhowz  12.Julius Von Sach  13.Englemann  14.BLACKMANN (1905)  15.VAN HELMONT (1648)  16.HILL AND BENDALL (1960)  17.RUBEN, HASSID  AND KAMEM (1941)  18.VAN NIEL (1931)  19.ARNON (1961) :  20.PETER MITCHELL (1961):  21.ROBERT HILL (1937):  22.Blackman’s  23.Karl Lohmann in (1929)  24.Embden-Meyerh  of-Paranas Pathway :  25.Sier Hans Krebs :  26.Peter Mitchell (1961):  27.Darwin & his son  28.Went  29.Kurosawa  30. Skoog & Miller  31.Garner & Allard  32.Lysenko | a) Root Pressure theory proposed  b) Theory of K+ - Transport and Hormonal Regulation  c) Starch - Sugar hypothesis  d) Mass flow or pressure flow hypothesis.  e) Transpiration Pull and Cohesion of water theory  f) Transpiration is necessary evil  g) nobel Prize winner Photosynthesis  h) Proposed a model of solute transport.  i) Hydroponics  J)Essential role of air in growth of green plants  k) Light role in Photosynthesis  l) Production of glucose & stored in SUCROSE  m)Described ACTION SPECTRUM of photosynthesis  n) Discovered two steps, i.e., light and dark reactions in photosynthesis. He further  proposed the ‘law of limiting factors’ .  o) Concluded by his experiments that dry weight of plant increases due to  water absorbed by them and not due to soil.  p) Proposed Z-scheme and suggested that two photosystems operate in  series.  q) Used 18O and confirmed that oxygen, evolved in  photosynthesis, comes from water and not from CO2 .  r) Demonstrated that some bacteria use H2S instead of H2O in the process  of photosynthesis.  s) Discovered photophosphorylation.  t) Proposed chemi-osmotic coupling hypothesis.  u) Performed experiments and demonstrated that the main function of  chloroplast is to photo-oxidize water (Hill reaction.)  v) Law of Limiting factors.  w) ATP was discovered .  x) Glycolysis.  y) Citric acid cycle.  z) Chemiosmotic coupling hypothesis  -aa) Existance of first plant grwoth Hormane –Auxin came from their work.  - bb) Provided proof for Darwin & his son’s  - cc) Giberelia fujikuror for GBA  - dd) CYTOKININ  - ee) Photoperiodism in Tobacco plants  - ff) Vernalisation. |

**Match the Column**

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**chloroplast is to photo-oxidize water (Hill reaction.)**

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**32. Glycolysis.**