#### **FINAL ANSWER KEY**

**Question Paper Code:** 29/2017/OL Category Code: 009/2016 Exam: **Environmental Scientist** Medium of Question: English Date of Test 12-04-2017 Department Environment and Climate Change Dpt Alphacode А Question1:-Who presided over the constituent Assembly while passing the constitution ? A:-Dr. Rajendra Prasad B:-Dr. H. P. Modi C:-Dr. B. R. Ambedkar D:-Dr. H. C. Mukherjee Correct Answer:- Option-A Question2:-Who represented the Anglo Indians in the constituent Assembly ? A:-C. H. Bhabha **B:-Frank Anthony** C:-H. N. Kunzru D:-B. N. Rau Correct Answer:- Option-B Question3:-How many sessions of the constituent Assembly were held in drafting the constitution ? A:-Nine B:-Ten C:-Eleven D:-Twelve Correct Answer:- Option-C Question4:-From which constitution of the world India adopted constitutional amendments ? A:-American B:-Irish C:-Australian **D:-South African** Correct Answer:- Option-D Question5:-When was the Indian Constitution first amended ? A:-1951 B:-1952 C:-1953 D:-1954 Correct Answer:- Option-A Question6:-When was the Lokpal Bill introduced in the Lok Sabha ? A:-2013 B:-2012 C:-2011 D:-2010 Correct Answer:- Option-C Question7:-When was the CMS missionaries set up a grammar school at Kottayam ? A:-1825 B:-1821 C:-1816 D:-1806 Correct Answer:- Option-B Question8:-Who popularised the idea of 'misra-bhojanam' among the Ezhavas and other lower castes ? A:-Dr. Palpu **B:-Kumaran Asan** C:-C. V. Kunhiraman D:-K. Ayyappan Correct Answer:- Option-D



A:-Poikayil Yohannan B:-C. Krishnan C:-K. P. Karuppan D:-Vaikunda Swamikal Correct Answer:- Option-D Question10:-When was the 'Ezhava memorial' submitted to the Maharaja of Travancore ? A:-1891 B:-1893 C:-1896 D:-1898 Correct Answer:- Option-C Question11:-Name the leader who organised 'Savarna Jatha' in the famous Vaikom Satyagraha ? A:-T. K. Madhavan **B:-Mannath Padmanabhan** C:-K. P. Kesava Menon D:-C. Krishnan Correct Answer:- Option-B Question12:-Who started the newspaper Kerala Kaumudi ? A:-C. V. Kunhiraman **B:-Kesavan Asan** C:-K. Ayyappan D:-K. Kelappan Correct Answer:- Option-A Question13:-Who is the author of the Malayalam novel 'Kundalatha' ? A:-P. Kesavadev B:-C. V. Raman Pillai C:-Raman Nambisan D:-T. M. Appu Nedungadi Correct Answer:- Option-D Question14:-Who was the first woman in India to become a high court judge ? A:-Arya Pallam B:-A. V. Kuttimalu Amma C:-Anna Chandi D:-Accama Cherian Correct Answer:- Option-C Question15:-Who received the Khel Ratna Award from the President of India for excellence in Sports for the year 2015 ? A:-Mary Kom B:-Mahendra Singh Dhoni C:-Sania Mirza D:-Saina Nehwal Correct Answer:- Option-C Question16:-When was Pradhan Mantri Jan Dhan Yojana launched ? A:-1992 B:-2013 C:-2002 D:-2015 Correct Answer:- Option-D Question17:-Name the US President who coined the term 'United Nations' ? A:-J. F. Kennedy B:-Franklin D. Roosevelt C:-George Bush **D:-Bill Clinton** Correct Answer:- Option-B Question18:-Name the Nobel Peace Prize winner who is also associated with an organisation called 'Bachpan Bachao Andolan' ? A:-Kailash Satyarthi B:-Baba Amte C:-Sunderlal Bahuguna D:-Naresh Bedi



Correct Answer:- Option-A Question19:-When is world water day celebrated ? A:-March 20 B:-March 22 C:-March 24 D:-March 26 Correct Answer:- Option-B Question 20:-Which development scheme of Prime Minister Narendra Modi is designed to increase Agricultural productivity ? A:-Pradhan Mantri Gram Sinchai Yojana B:-Krishi Amdani Beema Yojana C:-Shramev Jayate Programme D:-Sansad Aadarsh Gram Yojana Correct Answer:- Option-A Question21:-The word 'Environment' is derived from A:-Greek **B:-French** C:-Spanish D:-English Correct Answer:- Option-B Question22:-Which of the following conceptual spheres of the environment is having the least pollutant-receptor capability ? A:-Atmosphere **B:-Lithosphere** C:-Hydrosphere D:-Biosphere Correct Answer:-Question Cancelled Question23:-Which one of the following characteristics is widely regarded as being an important aspect of sustainable development? A:-Increased levels of saving B:-Increasing consumption expenditure C:-Intra-generational inequality D:-Inter-generational equity Correct Answer:- Option-D Question24:is an established method of collecting very dense and accurate geo-referenced elevation data across landscapes and can be used to generate three-dimensional representations of the earth's surface and its features. A:-Radar B:-Lidar C:-Lightsar D:-SLAR Correct Answer:- Option-B Question25:-Which of the following is a high spatial resolution satellite used for environmental management ? A:-IKONOS **B:-QuickBird** C:-NOAA D:-Both 1 and 2 Correct Answer:- Option-D Question26:-Global Warming Potential of important green house gases in the order of abundance are`` A:-`N\_2`O > CFC > `CH\_4` > `CO 2` B:-CFC > `CH 4` >`N 2`O >`CO 2` C:-CFC > `N 2`O >`CH 4` >`CO 2` D:-`N 2`O >` ` ` `CH 4 > CFC > ``CO 2` Correct Answer:- Option-C Question27:-In the atmosphere, the green house gases in the order of abundance are as follows A:-`CO 2` > `CH 4` > CFC > `O 3` > `N 2```O B:-`CO 2` > `CH 4` > `O 3` > CFC > `N 2```O C:-`CO 2` > `CH 4` > `O 3` > `N 2```O > CFC D:-`CO 2` > CFC > `CH 4` > `O 3` > `N 2```O Correct Answer:- Option-A Question28:-Chipko movement was originated in \_\_\_\_\_\_ State of India. A:-Madhya Pradesh Download FREE UPSC E-BOOKS

B:-Uttarakhand C:-Rajasthan D:-Gujarath Correct Answer:- Option-B Question29:-Narmada debate is associated with \_\_\_\_\_ A:-Damodar valley Project B:-Doyang dam project C:-Sardar Sarovar Project D:-Ganga basin project Correct Answer:- Option-C Question30:-Silent Spring is a \_\_\_\_\_ on \_\_\_\_\_ A:-book, Antartica B:-documentary, melting of ice C:-book, climate change D:-book, pesticide toxicity Correct Answer:- Option-D Question31:-The law which enable to compute the amount of total spectral radiant emittance which falls between two selected wavelengths or frequencies is \_\_\_\_\_ A:-Wien's Displacement law B:-Stefan-Boltzmann law C:-Kirchhoff's law D:-Planck's Radiation law Correct Answer:- Option-D is used as a reference scale for classifying tropical cyclone based on wind speed. Question32:-A:-Saffir-Simpson Hurricane Scale B:-John-Smith Hurricane scale C:-Wentwoth Hurricane Scale D:-None Correct Answer:- Option-A Ouestion33:is the type of inversion formed when a topographic difference exits causing the warm air to move over the cold surface. A:-Nocturnal inversion **B:-Advective inversions** C:-Radiational inversions **D:-Subsidence inversions** Correct Answer:- Option-B Question34:-Example of a low altitude rain cloud having pronounced vertical development A:-Cumulus **B:-Cumulonimbus** C:-Nimbostratus D:-Nimbus Correct Answer:- Option-B Question35:-The combined albedo of the earth and the atmosphere is approximately A:-4% B:-10% C:-30% D:-50% Correct Answer:- Option-C Question36:-The ratio of the volume of water that a soil or rock after saturation can be drained by gravity to its own volume is known as A:-Specific vield **B:-Specific retention** C:-Specific storage D:-Specific discharge Correct Answer:- Option-A Question37:-In Ghyben-Herzberg relation between fresh water and saline water, salt water occur underground at a depth below sea level of about times the height of fresh water above sea level. A:-20 B:-30



D:-50 Correct Answer:- Option-C Question38:-Which of the following pairs regarding earth's crustal composition is incorrect ? A:-Oxygen-46.6% B:-Silicon-27.7% C:-Aluminium-8.1% D:-Iron-4% Correct Answer:- Option-D Question39:-The weathering process which produce clay minerals from feldspar minerals. A:-Hydration **B:-Hydrolysis** C:-Oxidation D:-Carbonation Correct Answer:- Option-B Question40:-The seismic wave which can travel through both solids and liquids is A:-P-wave B:-S-wave C:-L-wave D:-R-wave Correct Answer:- Option-A Question41:-Photochemical smog is formed by the reaction between the following components in the atmosphere A:-By the action of sunlight on NOx, ozone, hydrocarbons B:-By the action of sunlight on NOx, oxygen, hydrocarbons C:-By the action of sunlight on SOx, ozone, hydrocarbons D:-By the action of sunlight on SOx, oxygen, hydrocarbons Correct Answer:- Option-A Question42:-Normal average thickness of stratospheric ozone layer across the globe is around A:-200 DU B:-300 DU C:-400 DU D:-500 DU Correct Answer:- Option-B Question43:-Which of the following pair regarding global distribution of water is wrongly matched ? A:-Glaciers-2.15% B:-Groundwater-0.3% C:-Streams-0.1% D:-Soil moisture-0.005% Correct Answer:- Option-C Question44:-Which predominant species of `CO 2` occur in water under alkaline condition ? A:-`HCO (3-)` B:-CO C:-`CO 2` D:-`CO 3` Correct Answer:- Option-D Question45:-The various stages of formation of coal in the ranking order is as \_\_\_\_\_ A:-Peat, lignite, bituminous, anthracite B:-Peat, lignite, anthracite, bituminous C:-Lignite, peat, anthracite, bituminous D:-Lignite, peat, bituminous, anthracite Correct Answer:- Option-A Question46:-Example of a mineral without cleavage A:-Feldspar **B:-Pyroxene** C:-Calcite D:-Quartz Correct Answer:- Option-D Question47:-In a typical soil profile, true soil is represented by A:-A-horizon **B**·-**R**-horizon Download FREE UPSC E-BOOKS

C:-Both 1 and 2 horizon D:-C-horizon Correct Answer:- Option-C Question48:-The molecules can be resolved on the basis of their distribution between a gas and either a solid or liquid by separation method known as A:-Gas chromatography B:-HPLC C:-Filtration **D:-Centrifugation** Correct Answer:- Option-A Question49:-Which of the following methods is used to determine large number of inorganic ions and organic compounds ? A:-Filtration **B:-Gravimetry** C:-Titrimetry D:-Colorimetry Correct Answer:- Option-D Question50:-The standard method for the analysis of higher levels of CO in air sample is A:-IR spectrophotometry **B:-Gas chromatography** C:-Chemiluminescence D:-UV spectrophotometry Correct Answer:- Option-A Question51:-The standard method for the analysis of a low levels of ammonia in water sample is A:-Titration **B:-Gravimetry** C:-Potentiometry D:-Spectrophotometry Correct Answer:- Option-D Question52:-The warmer, upper layer of water in a lake is called the \_\_\_\_\_ A:-Thermocline **B:-Epilimnion** C:-Hypolimnion D:-Neritic zone Correct Answer:- Option-B Question53:-Among the ecological pyramids, which pyramid always show upright irrespective of the grassland or pond ecosystem A:-Pyramid of energy **B:-Pyramid of number** C:-Pyramid of biomass D:-Pyramid of succession Correct Answer:- Option-A Question54:-Formation of a climax community from an abandoned farm land is an example of A:-Primary succession **B:-Secondary succession** C:-Autogenic succession D:-Allogenic succession Correct Answer:- Option-B Question55:-What type of organisms are the primary producers in the deep-sea ? A:-photosynthetic bacteria B:-chemosynthetic bacteria C:-crabs and fish D:-worms Correct Answer:- Option-B Question56:-The grassland ecosystem of Africa is known as A:-Savannas **B:-Prairies** C:-Steppes D:-Pumpas Correct Answer:- Option-A Download FREE UPSC E-BOOKS

Question57:-An association between two individuals or population in which both are benefited and where neither can survive without the other

A:-commensalisms **B:-mutualism** C:-co-operation D:-competition Correct Answer:- Option-B Question58:-Biofilms are A:-films about biology B:-masses of biological materials attached to wet walls C:-masses of cells and extracellular materials attached to surfaces bathed in liquids D:-collections of cells and extracellular materials attached to dry walls Correct Answer:- Option-C Question59:-Elements that cycle in the environment and that also have a gaseous phase at some point in the cycle include the following A:-carbon B:-carbon and sulphur C:-carbon and phospherous D:-carbon, phospherous and sulphur Correct Answer:- Option-B Question60:-Which of the following techniques can be used to estimate the number of microbes in a natural sample ? A:-Enrichment culture **B:-Extinction culture technique** C:-Microdroplet culture D:-Most Probable Number (MPN) Correct Answer:- Option-D Question61:-Which of the following environments has the greatest percentage of culturable microbes ? A:-saline water B:-fresh water C:-activated sludge D:-soil Correct Answer:- Option-C Question62:-Black soils are commonly found in A:-Rajasthan **B:-Maharashtra** C:-Odisha D:-Himalayan region Correct Answer:- Option-B Question63:-What are the Khetri mines in India famous for ? A:-Coal **B:-Copper** C:-Iron D:-Gold Correct Answer:- Option-B Question64:-Which State in India is the largest produce of mica mineral ? A:-Andhra Pradesh **B:-Karnataka** C:-Madhya Pradesh D:-Odisha Correct Answer:- Option-A Question65:-The Monazite sands of Kerala beach are rich in A:-Radium **B:-Uranium** C:-Platinum D:-Thorium Correct Answer:- Option-D Question66:-Which species of fauna are found in an area separated by natural or geographic barriers ? A:-Rare **B:-Extinct** 

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C:-Endemic D:-Vulnerable Correct Answer:- Option-C Question67:-Which of the following is an example of rare species ? A:-Blackbuck **B:-Blue sheep** C:-Mithun D:-Hornbill Correct Answer:- Option-D Question68:-Which of the following is not treated under in situ conservation ? A:-National park **B:-Botanical garden** C:-Wildlife sanctuary D:-Biosphere reserve Correct Answer:- Option-B Question69:-Which is not a freshwater lake in India ? A:-Sambhar lake B:-Dal lake C:-Nainital lake D:-Wular lake Correct Answer:- Option-A Question70:-Molasses from sugar industry is used to generate A:-bio-diesel B:-hydrogen C:-bio-ethanol D:-bio-methanol Correct Answer:- Option-C Question71:-The most important fuel used by nuclear power plant is A:-U-248 B:-U-235 C:-U-236 D:-U-238 Correct Answer:- Option-B Question72:-Which toxic metal is of greatest concern in urban atmosphere A:-Pb B:-Hg C:-Cd D:-As Correct Answer:- Option-A Question73:-Which of the following statement regarding PAH is correct ? A:-PAHs are synthesised from saturated hydrocarbons under oxygen deficient conditions B:-Low molecular mass hydrocarbons form PAHs by pyrosynthesis C:-Higher alkanes in fuels form PAH by pyrolysis D:-All of the above Correct Answer:- Option-D Question74:-Concern about atmospheric mercury is due to its A:-toxicity **B:-volatility** C:-mobility D:-all of the above Correct Answer:- Option-D Question75:-Most important source of CO in atmosphere is transportation and is about \_\_\_\_\_\_% of the total CO in atmosphere. A:-60% B:-65% C:-70% D:-75% Correct Answer:- Option-B

Ouestion76:-Photochemical smog is a



A:-oxidising smog B:-reducing smog C:-neutral smog D:-none of above Correct Answer:- Option-A Question77:-The concentration of ozone in the stratosphere is lowest during A:-February-April **B:-July-October** C:-December-January D:-None of above Correct Answer:- Option-B Question78:-The optimum DO in natural water is A:-3-5 ppm B:-4-6 ppm C:-5-7 ppm D:-6-8 ppm Correct Answer:- Option-B Question79:-Example of an organochlorine pesticide is A:-Malathion **B:-Carbaryl** C:-DDT D:-Trichlorphon Correct Answer:- Option-C Question80:-Acid mine drainage is characteristic of mining areas usually within rocks containing an abundance of minerals. A:-sulfide minerals **B:-oxide minerals** C:-carbonate minerals D:-nitrate minerals Correct Answer:- Option-A Question81:-The process of conversion of nitrate to ammonium is A:-Nitrification **B:-Nitrogen fixation** C:-Denitrification D:-Ammonification Correct Answer:- Option-D Question82:-The first comprehensive environmental legislation in the world is A:-National Environmental Policy Act (NEPA)-USA B:-Canadian Environmental Assessment Act (CEAA)-Canada C:-EIA Directive-European Union D:-Environmental Protection Act EPA-India Correct Answer:- Option-A Question83:-The beginning of EIA was made in India with the impact assessment of A:-River valley projects **B:-Industrial projects** C:-Thermal power projects D:-Mining projects Correct Answer:- Option-A Question84:-In India, Public consultation has been made a mandatory component of EIA by A:-EIA notification 1994 B:-Amendments in 1997 to the EIA Notification 1994 C:-EIA Notification 2006 D:-Amendments in 2009 to the EIA notification 2006 Correct Answer:- Option-B Question85:-Which of the statement regarding EIA in India is not correct ? A:-All 'A' category projects requrie prior EC from Central Government B:-All 'B' category projects require prior EC from the State/Union Territory C:-Scoping process is applicable to all A and B projects D:-In the scoping stage. TOR for EIA shall be furnished to proponent by EAC or SEAC



Correct Answer:- Option-C

Question86:-\_\_\_\_\_\_ stage in the EIA process will identify the key impacts requiring further investigation in connection with a project.

A:-Screening **B:-Assessing** C:-Scoping **D:-Mitigation** Correct Answer:- Option-C Question87:-Leopold Matrix involves the use of a matrix with specified actions and potentially impacted environmental characterization. A:-90 specified actions and 78 potential impacts B:-100 specified actions and 88 potential impacts C:-110 specified actions and 98 potential impacts D:-120 specified actions and 90 potential impacts Correct Answer:- Option-B Question88:-EMS is the component of an organization with primary responsibility for leading, planning, controlling and organizing as they relate specifically to A:-Processes **B:-Products** C:-Services D:-All of the above Correct Answer:- Option-D Question89:series of environmental management standards are intended to assist organizations manage the environmental effect of their business practices. A:-ISO 9000 B:-ISO 13000 C:-ISO 14000 D:-ISO 15000 Correct Answer:- Option-C Question90:-Identify the one wrongly matched A:-Environmental Protection Act - 1986 B:-The Air (prevention and control of pollution) Act - 1981 C:-The water (prevention and control of pollution) Act - 1975 D:-The wild life Protection Act - 1972 Correct Answer:- Option-C Question91:-Identify the wrong match A:-Cartagena Protocol - Climate change B:-Kyoto Protocol To reduce green house gases C:-Montreal Protocol - Substances depleting `O\_3` layer D:-Vienna Protocol -Protection of `O 3` layer Correct Answer:- Option-A Question92:-The process of converting environmental pollutants into harmless products by naturally occurring microbes is called A:-Ex situ bioremediation **B:-Intrinsic bioremediation** C:-Extrinsic bioremediation D:-None of these Correct Answer:- Option-B Question93:-Microbes remove metals by A:-Adsorption and precipitation **B:-Adsorption and complexation** C:-Adsorption and volatilization D:-All of the above Correct Answer:- Option-D Question94:-Which of the following bacterium is called the superbug that could clean up oil spills ? A:-Pseudomonas putida **B:-Bacillus subtilis** C:-Pseudomonas denitrificans D:-Bacillus denitrificans

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Question95:-Microbial conversion of an insoluble metal into a soluble form A:-Bioleaching **B:-Biodegradation** C:-Co-metabolism D:-Biosorption Correct Answer:- Option-A Question96:-Which of the following microorganisms leach metals out of rock ores ? A:-Pseudomonas aeruginosa B:-Thiobacillus sp. C:-Pseudomonas putida D:-Bacillus megaterium Correct Answer:- Option-B Question97:-Which of the following can be used for the removal of colour from the effluents of pulp mil ? A:-Coriolus versicolor B:-Phenerochaete chrysosporium C:-Nitrosomonas europaen D:-Both 1 and 2 Correct Answer:- Option-D Question98:-Addition of nutrients for enhancing bioremediation is called A:-Bioaugmentation **B:-Biostimulation** C:-Bioreaction D:-Bioleaching Correct Answer:- Option-B Question99:-In waste water treatment method, the activated sludge process is a \_\_\_\_ A:-pre-treatment method B:-primary treatment method C:-secondary treatment method D:-tertiary treatment method Correct Answer:- Option-C Question100:-Green chemistry aims to? A:-Utilize non-renewable energy B:-Design chemical products and processes that work most efficiently C:-Design chemical products and process that maximize profits D:-Design safer chemical products and processes that reduce or eliminate the use and generation of hazardous substances Correct Answer:- Option-D

