GSA Mack Exan (section I) Name : Fateba Aiman Batch . 369 - stokas (1) Question No 03 @ Explain and draw the structure (iii) Connective Zone Sous 70 Sen 1 The sun is a marine, glowing ball of plasma composed of Helium and Hydrogen minhich givesvilight and neat to Earth H H Ho He He He H Structure of Sun 2 Fig: Son The sun's stoclure consists of following layers (i) Gove Zone (Vi) The hottest region of son, where nuclear fusion reactions take place It enterds about 25% of solar radius



GSA Mock Exam (Sec The temperature of core is -15 million ( Name : Fate accust Radiative Zace Thermal ractiations transfer the intense at of core to obtinards as photon, taking thowards of years. (~7-2millioni) Connecuve Zone (iii) Hot plasma vises and cools in convection currents (r2 million - 5500C) +186000C (iv) Photosphere sportalt bac is the visible layer, a boundary between sun's interior and solar atmosphere, emitting heat and light ~5500°C (IV) Chromosphere A reddish atmospheric Layer, seen during solar eclipses. (~ 4000 - 25000 C)



Ni) Gorona (3) The outermost region of sun, which is entremely hot (1-3 million C) and source of solar wind, simonsit Belinit. Radialia Zone Core 51 of Sim Corregine Lore solph ros aves (i) Photosphere Corona Chromosphere Macher (ii) Volcenie Ecolim



6 Grona (iv) Mhat is Tsunami ? How it is generated ? Give examples recent Tsunamis? Definition of Trunam 1 As per National Manic and Atmospheric Administration (100,7A) A Trunami is a series of Mares caused by " earliquakes and under sea volcanic eruptions" Formation of Tsurami (Caures) 2 Tsunamis are typically caused by: (i) Undermater Earthquakes Most Tsunanie are triggered by tectonic plate movements in subduction 2001, where one plate slides under the other (ii) Volcanic Eryptions Explosive eruptions or collapse of volconic



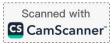
islands can lead to displace large amounts of water (iii) Landslides Submarines or large coastal landslides Can push water liphards to create mares. Mechanism of Tsunami Formation 3 sudden displacement in water creates disruption Initiation in all directions The inves travel across Te ocean at speed up to 800 km/b indeep oceans. Waves approach shooling shallow moder, their speed decreased but heigh drastically increase. the waives hit the Coastal areas, causing floods and destruction. of 4000 people in Indonana.



Manues Galing to coast 1111 hairm ε. Waler Torbolion Fig : Tsunami Recent examples of Tanam 4 1. (i) 2011 Totoku Tsunami (Japon magnitude earthquake of northereastern coast of Japan, Cousing 18000 deaths (ii) 2022 Tonga Tsunami ga Tonga Exoption of He Him causing inide spread dancy 2018 Sulanesi Tsurami (jii) - triggered 7.5 magnitude carthquak of 4000 people in Indonesia. death



(ii) On Ear O to Discuss Environmental pollution? How could be its harmful effects? Give a few measures to curb it > Environmental Pollution As defined by Introd Health Organization (1040): Environmental pollution refers to the contamination of natural resources (Air, water, soil) due to anthropogenic or natural activities, disrupting the Crosystems and harming life forms." Harmful effects of Invironmental Reducing Pollution (i) On Human Health . Fix pollution causes asthma, bronchitis ing concer Waterborne directors such as cholera, diathea and hepatitis are caused by contominated water



(ii) On Ecosystem FAVINGON The environmental policion causes estrophication biodiversity 6 and Change which Leads to 96bal INarming (iii) On Economy anod Soil and air pollection reduce agricultura productivity health care Increased burden is put on governments Measures to Curb Environmental 3 pollution energy By Promoting vereinab resources ·e. wind 10 Reducing air PMISSION pollution and industri transport, Adoption of public. reducing Ca poolin Cind pollatio chiwlar



least preferred nenications mil 7 Public transport Bicyde Mast 10 aking preferred Green transport Fig : granid Limiting wage of Chemical fatilisers Treat industrial and wastemaler nuncipal Reducing before discharge wate Reduce plastic wage to Dolution avoid ocean and yiver and Contamination soll Implement Sustaine adviculture to prevent disposal Hozardoas waite of Chenical Yund . 151 waste e.g Π air pollutio astrial toric water nollation ave to industrial inaito inater C 3 0 0-collion due. Soi Signal. 155 Ailizers Environmental Fig : chemicals position usage



preleased. least (d) What is Wireless Communication? Briefly enplain working salelite > Mark 4 INiveless Common cation the tran Mireless Communication is information because devices itho use of physical Connection e.g. 645 For instance, INIFI Mobile prones, Bluetoth and GPS systems use Wireless communication Working of a Satellite 2 (i) Signal transmission ground A grand station sends signal (Uplink) to satellite Using high frequency radio waves. (ii) Signal processing The satellite receives signal through anterna processes it. Depending



its function, satellite may amplify, convert or indirect the signal. Signal Cronsmission to (iii) alconstic ground The satellite sends processed signal (downlink) to another ground station or user device on Parl Satellite L~~ 5 Uplink downlink Ground stations Fig: Working of Salellile Types of Satellite 3 Scientific satellite Communication salethie e.g. Intelsat Hubble Space satellite Telescop Novigation satellite e.g. GPS Neather . salellile eg NODA satellites

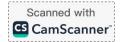


forther Question No: 04 Signa ( transition Differentiate between Prokoryotic and Eukoryotic cells? Prokoryotic Eukoryatic Cell eli nitriged Satellite march Simple Cell, Wilhout Complex cell, with true nucleus. a defined nucleus and cell ogenelles. Nucleus Freely suspended DNA is enclosed matric in nuclear membrane Size id velat 0"- 0.5Hm 10-100 Hm diameter diameter Organelles lacks membrane bound Contains membrane bound organelles Organ 11.0 miticity Frankles in rolling to Bacteria, Archaea, Forgi, animal, plants Cyanobacteria



Reproduction Aserval Bo the asewa mitosis) Binary fission Serval Diagrom A cely suspended Nocleve Energy a Orbed What is global Warning ? What is Kyoto protocol? Global Marming 21 (i) Definition Global Warming as defined by Intergovernmental Panel on Climate Change (IDCC The observed increase in global average temperature near Earth surface and in Scanned with **cs** CamScanner<sup>\*\*</sup>

the troposphere due to tising levels of greenhouse gases since preindustrial period, primarily caused by human processes," natural activities as mell Energy released back GHGs trop heat Ugh SF6 COL ingace CH4 Energy absorbed N/Kat Varning 2 What dedo ni Global INarmin Fig . (in) Courses of Global Marming Courses of G.IN Anthropo Natural Burning of fossil Volcanic deforestation eruptions COLUMN TO A THE REAL



(iii) Effects of Global Marming ist ist Riving Temperatures Noch. Floods, Melling of Effects TSUNDMUS (166) Novmin Bindiversity Rise Or lasi sea Level Kyoto Protocol Cancerne to 3 5 Kyolo protocol is an international 1997 Under UNFCCC compat GHG emission and global warming ind Developed countries committed -10 em GHG rion by an average limit be Sit 19900 Key Continties con trade Carbon mission allower features Tean development mechanism Und Kysto oushier can emissions reduction projects in developing Countres ond earo credits Recognized that developed countries on responsible for higher Emissions



; in Effects of Global Osming 3 Write a short note on GIS? Definition of GIS e freeds Elover, A geographic information system is computer based tool used to collect, me, anappe and visualize geographic store data Components of GIS boost of about 2 E People sluilled professional INFECC na Hardena GIS compoler, serves required to dipla data 800 KAR Jods Procedures to. Non Crives effective live of GSS data and tools vala visualization

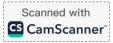


Conte out als' Functions of GIS (i) Data Capture Collecting geographic data from sources like satellite magery; GPS devices and field surveys (iii) Data Storage Information Organizing de la in data bases for easily retrievel and management Data Analysis (iii) Performing spatial analysis like overlaying patterns and modelling maps, identifying scenarios Vinue ation (iv) Creating maps, 3D models better understanding 23.2 (V) Data sharing Oal Distributing G. Is date land rejults through GIS application's Scanned with CS CamScanner

Data visualizations Raw Data Modelling Data overla Data Analysis Data Calco also abreator na £. ő Information : Functions of GIS Data Analysis (111) Applications of GIS 4 ÷ Agriculture Environmental CIS tool anagement 1 5 Monitoring, deforestation, wildlife resources Application Health of Core Analyzing Patient demographics, spread of diseases GIS Urbon Manning Land Use prostructure for Transpotation better city Disar Designing efficient management Identification of disarter prone areas



Common Coper Of (d) Briefly decuibe antioxidants? Definition of Antioxidants Antioxidants are the molecules that help protect body from damage caused by harmful molecules known a free radicals Free radicals are highly reactive unstable molecules that can damage cells, proteins and DNA and colo Norking of Antioxidants 2 Free Anti-Indical midart Donaling free electron to e radical to Sablize it



Common ypes of Antionidants ineridenter Briefly decembe Dhytochemical vitamin Mineral Vit C: \_ Found in Selenium: Forme Cotros Loils Found in fruits, vegetables, dork note, sea -VILE: Found in fordand nuts, seeds Choclate 910:15 Vil A . Found in Corrols, sweet Potatoes Arlianida. 8 ÷ JAA 39.8.9 Co es Part al all Ord Charl 6-3



Section II Polling Question 6 2(a) 4-DYK Solution Let, three digits of number by Given that 1  $+2 = 15 \rightarrow (i)$ X  $+2 = 12 \rightarrow (ii)$ (111) Solving in Do d (iii) 12 Ξ 2 2 = 14 = 1/2 1 = 7 Putting in (11) Я +2 12 7+2 = 12 Z= 5 12-7 => 2 Contraction of the



Section II è Putting y and z in Joelion 6 015 X+4 Solstim +5= 15 2+12= 15 15-12 χ X = 3 So the three digit number is 375 (C) Sol Dianeter of circle = 6cm public Circumference = ? Area = As 2 (Radius) Diameter Diameter Radi 6 = 3cm Radius = 4+2 712 = 12 2 ... 1



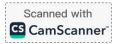
Citcumference of Citcle 217 Putting value of r Circumference 2/3.19 3 18.84 Circum Area = 7 r<sup>2</sup> (3.14) (3)2 (3.14)(9 28.26 cm Area į. 110 (d) Restion No. 13,24,46,90,178, 2 101 10 So 24-13 0 46 (2) + 2422x2+46 x 90 (44×2)+70 178 (88 x) +178 354 Arrea 0. (8)



YAS (ii) 5,6,9,14,21, paitte Addition of prime numbers in each entry 5+1 = 6 6+3 9 Ana 9 + 5 =14+7 71 36.20 21+11 (d)Question No: 8 . 06.90.178. (a) Given that INlidth of 100 m Length. Niddh = 60×5× 10 Nid 851 Area of room =  $5 \times 3 = 15 \text{ ft}$ Perimeter = 2(1+1N) = 2(5+3) = 2(8) = 16 ft



/ (6) (c) AN students • (7) 01 0.31 20ft 21 AE. w 4 48 ft GO Š As we know (1) = thoporgas theorem B Per pendi (Base Gyp + In A abc (M base = ab = 48ft ersibr = 20ft ic = hyp 81 ٨ 20 (hyp 48 2304 + 400 2704 (hyp) 2704 hy = 52 ft



(3) (c) Average marks of 140 students = 52-15 of marks students Average Lis no Sim 2 40 52:15x 40 um = .086 2 Sum = 49 (instead of correct marks of 85 Marke of a stude Rave corrected marks 2086-49+85 (Total) 2122 17-0 Average of new marks 18 122 40 53.05 11mlp -52



(d) People who like veg pizza A = 37 People who like \_ B = 25 Chicken Pizza People who eitler like Magelable or chicks A UB = 37 + 25 = 62 Condition People who like neither vegetable or chicken = . Thus, People who like either reg or chicken AUB = 62 - 3 = 59<u>25</u> 59 Probability of random = person picked to Like Chicken pizza 0.42337 Godd attempt 0.42 Wish you best of luck

