

Mock Test Series Batch-2 CSS-2025 (October 2024) GK-I (General Science & Ability) Test-2

INSTRUCTIONS

SOLVE Any TWO of the following questions
ALLOCATE 40 minutes to each question
ANSWER all parts of the question
ASSIGN proportionate weightage to each part
Each question carries TWENTY marks

Test 2

Question 1

- A) Explain the working of human heart. (5)
- B) Why Global warming is a threat? (5)
- C) Why liver is considered as a chief chemist of the body? (5)
- D) Explain the GHE. (5)

Question 2

- A) Write a short note on enzymes. (5)
- B) Explain the filtration of blood. (5)
- C) Explain Air pollution & give its controlling measures. (5)
- D) Write a short note on remote sensing. (5)

Question 3

- A) What is Dengue? Give its preventive measure. (5)
- B) Explain the waste disposal methods. (5)
- C) Explain the working of Mobile phone. (5)
- D) Explain the following: (5)
 - i. Cell Wall
- ii. Cell membrane
- iii. Plastids

	GSA	
	e employed to At the suiteA .	
	Question a:	
(0)	Enzymess (and a district	
	Introduction:	
	Enzymes are defined as	_
	Enzymes are defined as 66 Preteinaceous substances	_
	present in the human body	_
	which perform the function of catalyzing metabolic reactions taking place in the	
	of catalyzing metabolic	•
	reactions taking place in the	_
	pogn's	_
	knzymes speed up chemical	_
	reactions and in their presence	_
	modabblic adjusties become million	_
	include pepsin, amylan, cellulare and	-
	include pepsin, armylane, cellulare and	_
	urease de.	
	Stablisto Busha the astrol A	_
	Marking of enstruct:	
	Enzymes are highly	
	substrate specific. The model of	_
	their working is called back and	-
	Key Modd. They git a substrate	
	just as a key fits a specific	

Jock. AZD	
Active site of an enzyme	
is the part which actually Take	ಲ್ಕ
part in a chemical reaction, Wh	role (
enzyme does not become altached	rol .
to a substrate.	
6 Proteina cenus substances	
goive site of as to the design of the state	
Enrime + supporte	
Camples Camples	e
S. febod	<u> </u>
Product + Eneyme	7,60
modern sprint and all place	3-97
Figure 1: bock and key model	10
par sometime solling and	
Once an enzyme has calabye	ed
a readion, it becomes available	111
for taking bast in another readion	
Apoenzyme and Haloenzyme: The nonprotein part of	(UE GAI)
an engline is called a capactar. The	Kel
an ensyme is called a cafactor. The protein part alone is called an	

	politostavo di bro ostullog na!	(2)
	apoensyme. The protein part along with the apator makes holoensyme.	~ ~ ~
,	Factors that affect ensume adjuity	-
	1- Temperature	
	12-2 pH/ vo boy losimodo	
	3. substrate concentration	
	mooned tof legiment if	
	uses of ensymes:	
	in human body. e.g. Pepain digestion	
	in human pearl. e.d. bebein gidept	
	proteins, amytare digest sugar and lipare sugar digests lipar etc.	
	2- Enzymes are isvalved in	
1	almost all the metabolic pathways	
	of the body og glycolysis	
	of the body .g. glycolysis. In	
1	industries like in town 10	
	(b) food industry	
	(b) food industry	
-	co Agrapracessing	
	(d) Rubber industry etc.	
	Notural Anthropogenic	
	And an hall the	

(0)	Paillostras eti bas noitullog siA
	measurel: 109 months of semisore 40
•	Invoduction:
	Air pollution is defined
	asticito emisco toste Tod entro?
	66 Any modification or
	degradation of physical,
	chemical and or biological
	properties of air which
	is harmful for humans
	and other organisms?
	Two types of air pollulants
	pollute the air. There are primary
	pollwants like 80x and NOx ac and photochemical pollutant like
	of and photoch mie pollutant like
	photochemical smg.
	Aponthy stateting off the transmit
	Sources of air pollution:
	Air pollution is caused
	by natural as well as arthrapogenic
	(man made) causes.
-	and the state of t
	Causes
	2 Tay July deline (D)
	Naturai Anthropogenic
	Natural Anthropogenic Valcanoes eg. Buring of fossil fuels, etc combussion invitables etc
	m more on the Menicial Alla

	Effects of air pollution:	
	Air pollution affects land	
	and water as well.	
	1- Air pallements like 502 and	
	Non become reason of acid rain	
	causing buildings and fertile	
	2. Air pollutant accompanied	
	by rain modify the characteristics	
	by rain modify the characteristics of soil when that rain falls on	
	the ground who has been established that	
	3- Air pollution causes diseases	
	in human like	
	(a) Irritation of eyes and throat	-
	(b) respiratory difficulty	
	(C) Dizinek	
	4. Air pollutants litre GO2 and CHy cause global warning. In the long run rapid dimate change ensues which poses an existential	
	CHy cause global warning. In	(6)
	the long run rapid dimate change	
	ensues which poses an existential	
	Threat to humans.	···
1	poitsollos fo usora ett as	
	Controlling Measures for Air	
		as constraints and a second
	devoidt upour etdinessoni ot	

	ensituttoa jio sho ztorte	2
	1- Source control in the way	
	forward if air pollution is to be	
	controlled	
	2 A shift towards renewable of	
	energy cources is required.	
	3- (1se of fossil fuels as an	
	energy source should be reduced	
	and scrubbers should be used in	
	and scrubbers should be used in	
	by vehicles and industries to	
	sheck the emission of pollutants	
	Tike 50a. Alib napand ai	
	5. Adherence to protocols like	
	Kyoto Protocol should be ensured	
1000	TODO TOD THE WORLD NAP	*
(9)	Short note an remote sensing:	
	Introduction: no bigo un mais	
	Remote sensing is defined	
	as mound of torri	
	The process of collecting,	
	bro prilibulging marishlaro	
	analyzing, maripulating and managing the data related to inaccessible areas through	
6.50	to inaccessible areas through	

	the use of sensors and an	2:
	illumination source.	
	- tob	
	Components of remote sensing:	-6-
1-	Illumination source:	,
	A source to elliminate the	
	targed is the first component sun is used as an illumination cource.	
	is used as an illumination course.	
3-	Torget:	
	Light adjustion interacts	Cepyceis T
	with the atmosphere and illuminates	
	The target consider to do of 8	
3.	Seniors: Liberto Abunto vetabilo	
	Enritted or reflected energy	
	is seved of revious gike consolitor.	
4_	Receiver with:	
	Sensors serol this information	
	to receiver with	
	South	
111m	mination Service	
	119 30 \ 110 \ 10 \ 10 \ 10 \ 10 \ 10 \ 10	
	The state of the s	

	Processing unit: 123 to say set	
-	It processes the obtained	
-	date.	
6-	Final imagay:	
	Final imagery is obtained	
	Final imagery is obtained and stared for further use.	
	Uses of remote sensing:	
	Uses of remote censing: 1- To study the topography of	
	Earth 2 To child and a structural	
	of Earth	
	3. To obtain information regarding	
	disaster struck areas.	-8-
	4. To study impact of wars	
	e.g. Pre and post war imagery from	
	Receiver units som	<u> - l' </u>
	5. To view relatively inaccessible	
	areas of Earth	
	6-10 study crap fields.	
	7. In farestry.	7(71) E.
	8-To study areas of fish	
	· concentration	
		oΓ
	Smit Prosest vericost	

(4)	Filtration of blood: - acidential	A second
-	Blood is filtered by the	CDI
	kidneys which remove the	
	nitragenous wastes of the body	
	through encretary system.	
	- Kidneys are bean	
	shaped organs which filter blood.	
	appoint bothimment bas	
	" itagge siped robov out	
1	Kidney	
	Asign beside for a Rolling	
	ald solve the most fallow	
	Courative agardent	
	Bladder 1 Wald	
	DEN STATUS COMP DIAGO	
	rephrons: : asimimmon!	
	They are the basic units	
	of kidneys which perform the	
	Prenation of blood filtration through	
	an intricate network of tobuter.	
	surphib to motiones	
	Discuss in r	
	Discuss in r	
	detail and re	Control of the Contro
1	your headin	
	Fig: Nephron the qs state	ment

	Question 3: hold to acitorili?	ca
CPI	Dengue and its preventive measures:	
	Introduction:	
	Dengue is defined as	
	Dengue is defined as	
	caused by one of sour	
	strains of dengue views	1
	and transmitted through	
	the versor tegis agypti. 20	
	Dengue is a feverish illness	
	which is characterized by a sow	
	plailet count in the blood.	
	Causative agent:	
74	DEN 1, DEN 2, DEN 3 OV	
	DEN 4 Virus cames dengue.	
	Transmission: :2007dd ald	
	Dengue is Transmitted when	
- 31.74	an injected female marquito	
	tegis aegypti bites a healthy	
	person de	
	Symptoms of dengue:	
	1- Fever	
	2- Fatigue	
	3- Pain behind The eyes	
	4- Vaniting	
	5. Naural appliant : PA	

3.4	6. Problems in blood coagulation	(d)
	7. Muscle and joint poin eleuboral	
	by by Bin 201	
	Preventive measures:	
	- Vector control is the way forward	
	to prevent dengue from spreading.	
	2- Habitate for marquitoes should	
	be destrayed will be under withhow	
	3. Aegis mosquito às active during day time. Preventione measures like	
	day time Preventione measures like	
	window screens, morquito repellents	
	and full sleeved dother should be	
	enforced.	
	1- Staying indoor in the early	
	morning and before dust proves	
	helppu.	
	5. Water containers should be	
	regularly emptied.	
	6. Spraying injecticides also helps	
	in prevention to long is has	
A. S.	7. Unplanned upanization should	
	be dixouraged.	4.54
	8. Waster should be properly	
	duposed off who become	
	200	

(p)	Explanation of waste disposal methods:
	Introduction:
	These methods are
	employed to properly gather, 19199 -
	transport, process and eventually dispose
1	off waste products. These methods are
	institutionalized and supervised In of s
	addition they require trained staff. Some of the waste disposal methods
	Some of the waste disparal matheds
	are the some of some pole
	1- Solid Woute Management
	2- Ladfill Method
	3_ Incineration
•	4- Open dumping
	5. Composting
	1 Calida Managarata vata (1) 2
	L. Solid Waste Management: 11 is the supervised
	process of collection, recovery
	and disposal of solid waster, and is proposely institutionalized.
	Stops:
	1-Collection: Collection from houses
	hospitals and industries etc is
	done.

	2. Transport: Waster are transported to	
	a central Racility through vehicles	-
	3-Recovery: Recyclable wave is	
	8-Recovery: Recyclable wave is separated and recovered.	
U	1-Disposal: Finally, the waster are	
	disposed off. prianul 1000 y	
	dispard off. prignub rego.	
	Landfill are properly	
	Landfill Method: Landfill are properly designated areas where	
	waster are disposed and	
	then covered to avoid	
	contact with surroundings.	
ı	andfillemells: bide zonow bas	
	Acres Jong Jandfill cells	
	ove lined properly to avoid leadhate	
- 11	from the cell contaminating ground	-
	V	
1	Toubust Company of the Company of th	es—
1	Figure: A landfill cell Aipe to line	1
	rigare: in identification of the to	
	Lines Lines	-
	Made	- 6/
7	there Leochate Leochate	
10		
-	CHOPE) Didos 2h 1 Dannos doido	

		-
	3-Incineration: Mount tropports	
-	14 is the burning of	
	solid wastes at temperatures	
	as high as 1000°C to	
	reduce the volume of waster?	
	4. Open dumping	
	4. Open dumping is a	
	highly discouraged method	5
	of disposing waster waster	
	are dumped in open plains.	
	5- Comporting: bernaulb sto strow	
	5- Comporting: heraib sto strow	
	biological agents like backina	
	biological agents like backina and worms which degrade	
	waster biologically?	
	stediostribiosto, of utingera iterit oso	
	Wastes are mixed with	
	ovaler and worms are left to	
75	act on them for a course of	2
	menths. No Miles A: SUPIT	
(c)	Working of a Mobile phone:	
	Introduction:	
	Mobile phone is a	-
	telecommunication device	
	telecommunication device which connects its subscribes through networking.	

1		
	Working of a mobile phone:	
	The working principle of a mobile	
	Phane Energy can be conveited	
	Working of a mobile phone: Law of conservation of energy is The working principle of a mobile Phone Energy can be converted from one form to another but cannot be destroyed	
2-	Mobile phone uses radiowaves	
	for its working. These waves are chedramagnetic waves having greatest wavelengths but sowest energy and	
	wavelengths but downest energy and	16.
	frequency.	ديدي
3.	Networking of mobile phones is	
	cellular. Mast and base stations	
	receive and traport data, and carry out modulation respectively.	
٧_	Sound energy is converted into radiowaves and then again into	
	sound waves to trainimit data.	
	Sound Experied Radiowaves Jenber 2 Sound	pd
-	ipnuf 11 aitió	

2		, =
	Caller of the paidtoll	
	Size is out words to was	-1
	Sol	
U	Mr. Company	
	Receiver de la	
,	Fig: Cellular néwaking of a	-5-
	mobile phone of addition to	
	distinct payed souper simpomortosts	
(d)	Introduction:	
	Cell wall cell membrane	
	and plastid, are components of	3
	cells of organisms. Fallowing is	-
	Cell wall: 100 1000	
	66 Cell wall is The gutermat	
	covering of plant tungal	y
	and microbial cells, but it wish	
	is absent in animal adly?	
- 6	Cell wall is made up of	
	Collulose in plants	
	Chitin in fungi Reptidoplycan in Bacteria.	-

,)		
	Eundiones	
	It gives cells their shape and	
	protects from mechanical trauma	
	Cell Membrane:	
	Cell membrane is defined as	
	of the outermost covering in 19	
	animal cells but second	
,	boistoped thought in tramstup	
	and africagal cells which	
	cellular transport of materials	
	cellular transport of materials	
	across The cells.	
	madrian double membrane	
	Structure: 19 sellenopro baund	
	A has a lipid bilayer	
	made of phospholipids with proteins	
	embedded in between Its structure	
3	can be explained by Fluid Moraic	
1 *	Model. Mediauzzada pi	
	mode.	
	SCOOP C Phosphalip	q,
		1
	Embedde	
*	proteins	

	Fundions:	
	1- It controls the transport of	
	molecules across the cell.	
- Alexander	2- It is selectively permeable.	
	2- It is selectively permeable. 3- It allows propagation of	
	nerve impulses.	
	nerve impulses. 4. Phagocytosis (ell eating) and	
	pinocytosis (cell drinking) stake place	
	through cell membrane	
	5. It maintains the concentration	
	gradient. ai baylooni planon il	
	plaintom to trouvaint volulles	
	Mastidi: "Dillo of morse.	
	66 They are double membrane	
N. Salary	bound organelles present anly in plant cells.	
	anly in plant cells.	
	functions:	
	1. They allow synthesis of	
	food and energy in the presence of	
	light i.e. phatosynthesis.	
	2. They give colour to flowers and	
	Brute de de la cologie	
	3. They store food for the plant.	
	the said	

	Type:	
N.	Type: 1- Chloroplant: 1+ contains the	
	green pigment chloraphyl involved in	
	photosynthesis.	-
	green pigment chloraphyl invalved in photosynthem. 2. Chromaplast: They give colour to	
	petale of Moures and fruits.	
	3-Lewrodast. They store good for	
	13-Leuroplast: They store food for	
	0 '	
	Good answers!!!	