Andhra Pradesh State Council of Higher Education

Notations:

Change Theme:

Help Button:

Show Reports:

1.Options shown in green color and with ✓ icon are correct.

2.Options shown in red color and with [™] icon are incorrect.

Question Paper Name :	Biochemistry 5th May 2024 Shift 1
Duration :	120
Total Marks :	140
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator:	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required?:	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter:	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No

No

No

No

Show Progress Bar: No Is this Group for Examiner?: No **Examiner permission: Cant View Show Progress Bar?:** Nο **Research Methodology** Section Id: 971036559 **Section Number: Mandatory or Optional:** Mandatory **Number of Questions:** 66 **Section Marks:** 70 **Enable Mark as Answered Mark for Review and** Yes **Clear Response: Maximum Instruction Time:** 0 Is Section Default?: null Question Number: 1 Question Id: 97103639340 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the primary focus of Reflective Teaching? **Options:** 1. Memorization 2. W Understanding

3. Critical thinking

4. * Repetition

Question Number : 2 Question Id : 97103639341 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

What are the characteristics of adult learners?

Options:

- Dependence on the teacher
- 2 Students have their own motivation
- 3. * Passive learning style
- 4 * Fixed mindset

Question Number : 3 Question Id : 97103639342 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

In teaching, what does the term "Learner centred" approach emphasize?

- 1. * Teacher's authority
- Student involvement and active participation
- Memorization of facts

Rote learning

Question Number : 4 Question Id : 97103639343 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Which is an example of an online teaching platform?

Options:

Digital Repository

2. Wirtual Symposium

3. Swayam Prabha

4. * Cybernetic Laboratory

Question Number : 5 Question Id : 97103639344 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

What is a key characteristic of modern evaluation system?

Options:

Time: 0

Rigid structure

Sole reliance on exams

3. Continuous assessment

Limited feedback

Question Number : 6 Question Id : 97103639345 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the purpose of a VPN (Virtual Private Network) in ICT?

Options:

1. To provide a secure connection over a public network

- To increase computer speed
- To enhance graphics processing
- To store large amounts of data

Question Number : 7 Question Id : 97103639346 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the main purpose of Computer-Based Testing (CBT) in education?

Options:

1. Simplify teacher workload

Increase paper usage Enhance test security Reduce access to exams Question Number: 8 Question Id: 97103639347 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the key characteristic of a quantitative research method? **Options:** Emphasis on subjective experiences Focus on numbers and statistical analysis Narrative storytelling 4. * Historical analysis Question Number: 9 Question Id: 97103639348 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the primary goal of descriptive research? **Options:**

1.

Establishing cause and effect relationships 2. * Exploring new theories Describing and summarizing data 4. * Analysing historical events Question Number: 10 Question Id: 97103639349 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which approach to research emphasizes the objective measurement of observable phenomena? **Options:** Qualitative approach Historical approach Positivistic approach Post-positivistic approach Question Number: 11 Question Id: 97103639350 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0
What is common characteristic of qualitative research methods?
Options :
1. * Large sample sizes
Emphasis on statistical analysis
3. ✓ In-depth exploration of phenomena
4. * Experimental manipulations
Question Number: 12 Question Id: 97103639351 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0
What is the first step in the research process?
Options :
1. * Analysis of findings
2. ✓ Formulation of research questions
Data Callaction
3. * Data Collection
3. * Conducting literature review 4. *

Question Number: 13 Question Id: 97103639352 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In research writing, what is the purpose of referencing? **Options:** To confuse the reader 7 * To demonstrate the author's intelligence 3. To enable verification To save space in the document Question Number: 14 Question Id: 97103639353 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 How does ICT (Information and Communication Technology) contribute to research? **Options:** By discouraging collaboration 2 * By limiting access to information 3. By facilitating data collection, analysis, and dissemination By promoting unethical practices

Question Number: 15 Question Id: 97103639354 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the key characteristic of effective communication? **Options:** Confusion 2. * Misunderstanding 3. Clarity 4. * Ambiguity Question Number: 16 Question Id: 97103639355 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which is an example of non-verbal communication? **Options:** 1. * Written letter 2. * Text message 3. Facial expressions 4. * Phone call

Question Number: 17 Question Id: 97103639356 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which ICT tool is used for storing, organizing, and manipulating data?

Options:

- Browser
- 2. Spreadsheet
- Presentation software
- 4. * Email client

Question Number : 18 Question Id : 97103639357 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

In a classroom setting, what is an essential aspect of effective communication?

- 1 * One-way communication
- 2. * Lack of feedback
- Clear instructions and feedback

4. * Ambiguous messages

Question Number : 19 Question Id : 97103639358 Display Question Number : Yes Is Question

 ${\bf Mandatory: No\ Calculator: None\ Response\ Time: N.A\ Think\ Time: N.A\ Minimum\ Instruction}$

Time: 0

What is a common barrier to effective communication?

Options:

Active listening

2. * Clarity in expression

3. Language differences

Open communication channels

Question Number : 20 Question Id : 97103639359 Display Question Number : Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Which form of communication reaches a large and diverse audience simultaneously?

Options:

1 * Interpersonal communication

2. * Group communication

3. ✓ Mass-Media communication

4. * Intra-cultural communication

Is Section Default?: null

Question Id: 97103639360 Sub Question Shuffling Allowed: Yes Group Comprehension

Questions: No Question Pattern Type: NonMatrix Calculator: None Response Time: N.A

Think Time: N.A Minimum Instruction Time: 0

Question Numbers: (21 to 25)

Read the Passage and answer the following questions:

In terms of labour, for decades the relatively low cost and high quality of Japanese workers conferred considerable competitive advantage across numerous durable goods and consumer electronics industries (eg. Machinery, automobiles, televisions, radios). Then labour-based advantages shifted to South Korea, then to Malaysia, Mexico and other nations. Today, China appears to be capitalizing best on the basis of labour. Japanese firms still remain competitive in markets for such durable goods, electronics and other products, but the labour force is no longer sufficient for competitive advantage over manufacturers in other industrializing nations. Such shifting of labour-based advantage is clearly not limited to manufacturing industries. Today, a huge number of IT and service jobs are moving from Europe and North America to India, Singapore, and like countries with relatively well-educated, low-cost workforces possessing technical skills. However, as educational levels and technical skills continue to rise in other countries, India, Singapore, and like nations enjoying labour-based competitive advantage today are likely to find such advantage cannot be sustained through emergence of new competitors. In terms of capital, for centuries the days of gold coins and later even paper money restricted financial flows. Subsequently regional concentrations were formed where large banks, industries and markets coalesced. But today capital flows internationally at rapid speed. Global commerce no longer requires regional interactions among business players. Regional capital concentrations in places such as New York, London and Tokyo still persist, of course, but the capital concentrated there is no longer sufficient for competitive advantage over other capitalists distributed worldwide. Only if an organization is able to combine, integrate and apply its resources (eg. Land, labour, capital, IT) in an effective manner that is not readily imitable by competitors can such an organization enjoy competitive advantage sustainable overtime. In a knowledge-based theory of the firm, this idea is extended to view organizational knowledge as a resource with atleast the same level of power and importance as the traditional economic inputs.

Sub questions

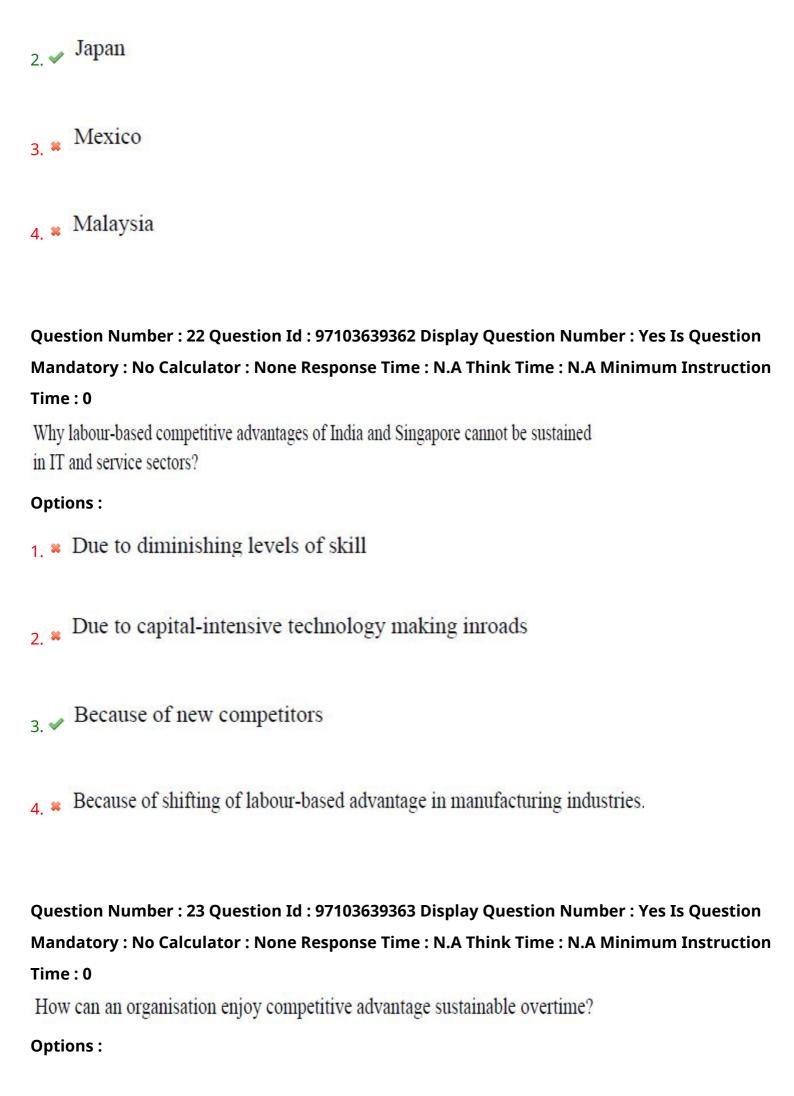
Question Number: 21 Question Id: 97103639361 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Which country enjoyed competitive advantages in automobile industry for decades?

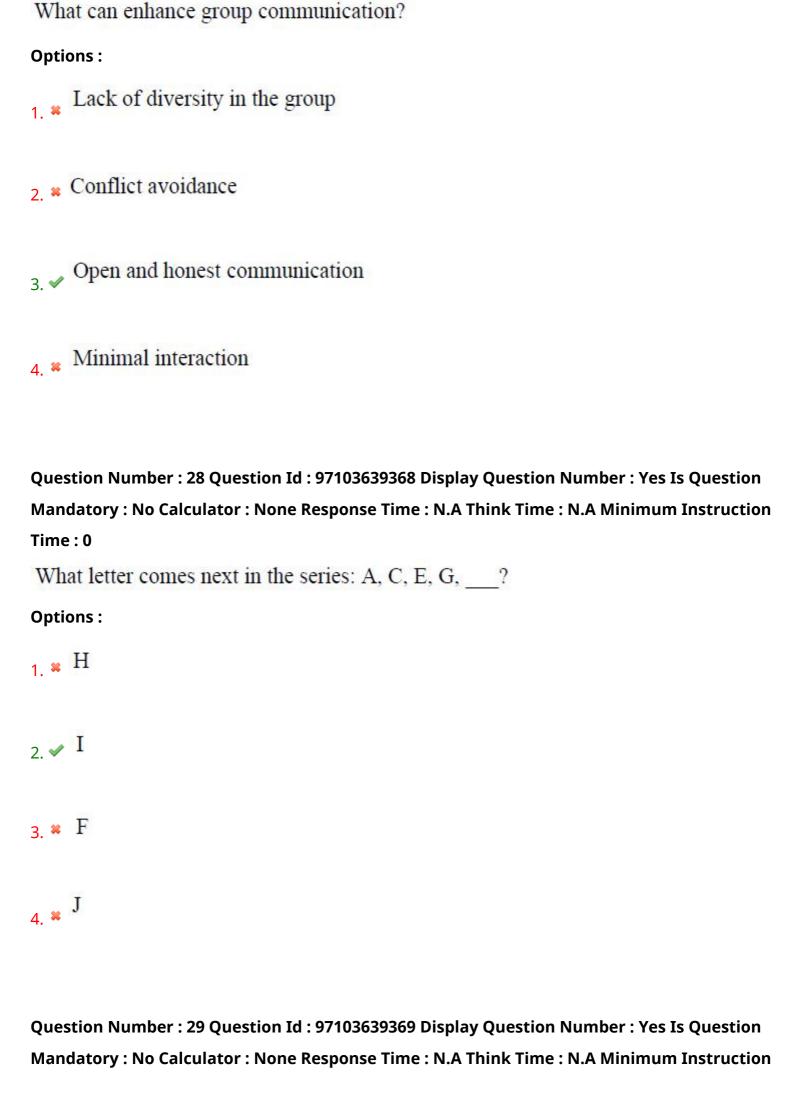
Options:

South Korea



Through regional capital flows 2. * Through regional interactions among business players. 3. * By making large banks, industries and markets coalesced. △ → By effective use of various instrumentalities Question Number: 24 Question Id: 97103639364 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is required to ensure competitive advantages in specific markets? **Options:** Access to capital 2. * Common office buildings 3. Superior knowledge 4. * Common metals Question Number: 25 Question Id: 97103639365 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The passage also mentions about the trend of

1. ✓ Global financial flow	
2. * Absence of competition in manufacturi	ng industry
Regionalisation of capitalists	
Organizational incompatibility	
Is Section Default? :	null
Question Number: 26 Question Id: 97103639366 Mandatory: No Calculator: None Response Time Time: 0 What is the main purpose of mass-media in Options: To confuse people	: N.A Think Time : N.A Minimum Instruction
To entertain only	
To inform, educate, and entertain	
4. * To restrict information flow	
Question Number : 27 Question Id : 97103639367 Mandatory : No Calculator : None Response Time	



Time: 0

What is the next number in the series: 2, 5, 10, 17, ___?

Options:

- 1. * 22
- 2. * 24
- 3. 🗸 26
- 4. * 28

Question Number: 30 Question Id: 97103639370 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

What is the missing number in the series: 8, 12, 18, __, 36?

- 1. * 22
- 2. * 24
- 3. * 25
- 4. 🗸 26

Question Number: 31 Question Id: 97103639371 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

If the price of a product increases from Rs.50 to Rs.60, what is the percentage increase?

Options:

1. * 10%

2. * 15%

3. 20%

4. * 25%

Question Number : 32 Question Id : 97103639372 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the cost price of an item is \$40 and it is sold for \$60, what is the profit percentage?

Options:

1. * 20%

2. * 30%

3. * 40%

4. **✓** 50%

Question Number: 33 Question Id: 97103639373 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If a shirt is purchased for Rs.30 and sold for Rs.25, what is the loss incurred?

Options:

- 1. × Rs.5
- 2. Rs.10
- 3. * Rs.15
- 4. * Rs.20

Question Number: 34 Question Id: 97103639374 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If the interest is calculated on both the principal and accumulated interest, it is known as

- 1. * Simple Interest
- 2. Compound Interest
- 3. * Discounting

4. * Percentage

Question Number : 35 Question Id : 97103639375 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

If a car travels at a speed of 60 km/h, how far will it travel in 2 hours?

Options:

150 km

2. 120 km

3. * 180 km

4. × 90 km

Question Number: 36 Question Id: 97103639376 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What is the classical square of opposition used for in logic?

Options:

Evaluating analogies

2. Establishing the validity of arguments

- 3. Distinguishing deductive and inductive reasoning
- Analysing fallacies

Question Number: 37 Question Id: 97103639377 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time:0

The structure of categorical propositions in logic are typically represented by

Options:

- √ Venn diagrams
- 2. * Analogies
- 3. * Indian Logic
- 4. * Deductive reasoning

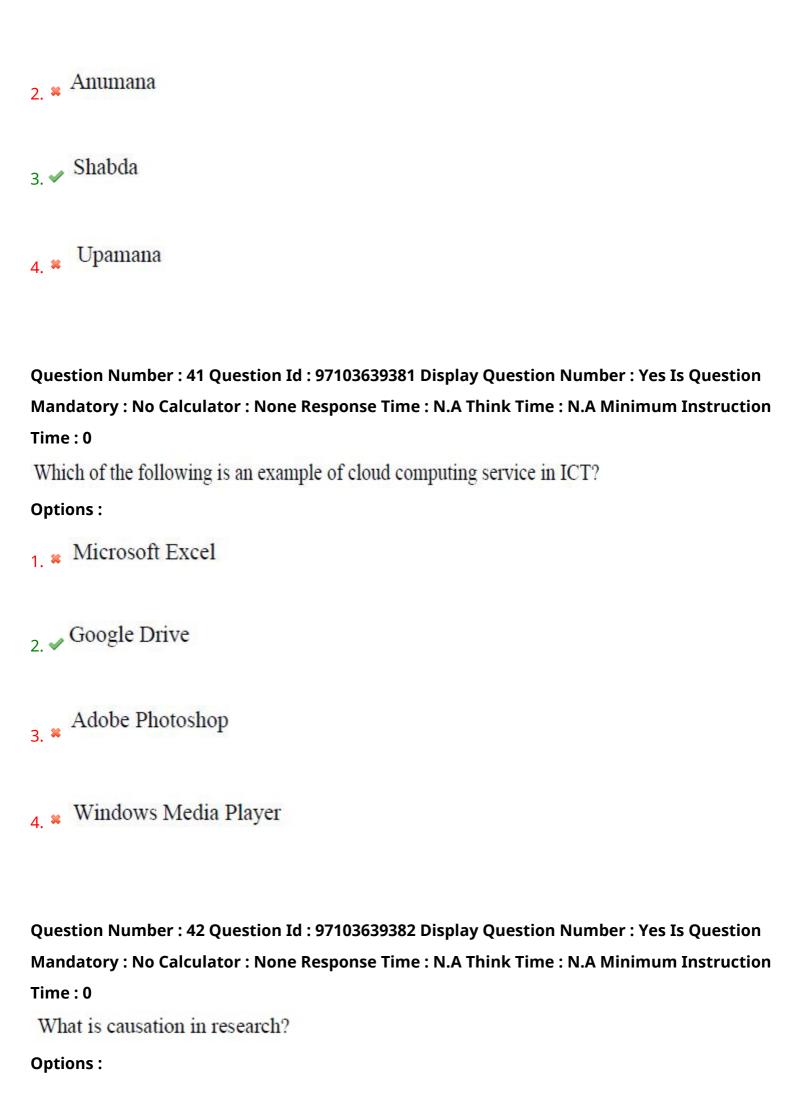
Question Number: 38 Question Id: 97103639378 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which type of reasoning involves drawing specific conclusions from general principles?

Options:

1. * Deductive reasoning

2. Inductive reasoning Analogical reasoning 4. * Fallacious reasoning Question Number: 39 Question Id: 97103639379 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the purpose of a QR code in ICT? **Options:** To send emails 2. * To scan documents 3. To store and retrieve information quickly ▲ To create animations Question Number: 40 Question Id: 97103639380 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which Indian Pramana deals with verbal testimony as a means of knowledge? **Options:** Pratyaksha



1. * The process of proving a hypothesis 2. * The final conclusion of a research study The outcome of hypothesis testing The relationship between variables where one influences the other Question Number: 43 Question Id: 97103639383 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Identify the type of argument presented: ' just as a sword is the weapon of a warrior, a pen is the weapon of a writer'. **Options:** 1. Analogical 2. * Deductive 3. * Inductive 4. * Hypothetical Question Number: 44 Question Id: 97103639384 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

		PRODU	ICTION U	JNITS		
MONTH	A	В	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In which month the unit B has a contribution of approximately 15% in the total sugar production?

Options:

1. August

2. June

3. ✓ July

4. * April

Question Number : 45 Question Id : 97103639385 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

		PRODU	ICTION U	JNITS		
MONTH	A	В	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

Which of the following units shows continuous increase in the production of sugar over months?

Options:

Question Number: 46 Question Id: 97103639386 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

		PRODU	ICTION U	JNITS		
MONTH	A	В	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In the case of Unit E, in which of the following pairs of months the production of sugar was equal?

Options:

- 1. * April & June
- 2. June & July
- 3. * July & August
- 4. ✓ April & May

Question Number : 47 Question Id : 97103639387 Display Question Number : Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

		PRODU	UCTION U	JNITS		
MONTH	A	В	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In the month of June, how many units have a share of more than 25% of the total production of sugar?

Options:

1. ✓ One

2. * Three

3. ***** Two

4. * Four

Question Number: 48 Question Id: 97103639388 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

		PRODU	ICTION U	JNITS		
MONTH	A	В	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

What was approximate percentage decrease in sugar production of unit B in June as compared to April?

Options:

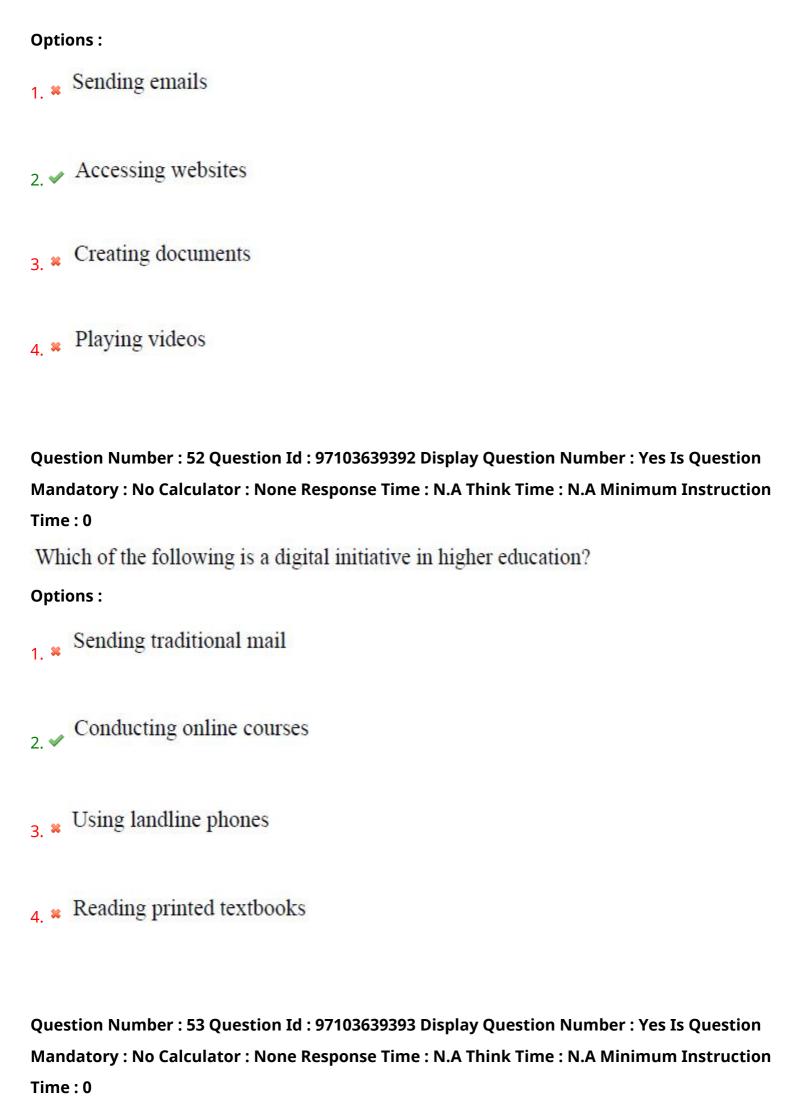
Question Number: 49 Question Id: 97103639389 Display Question Number: Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

What is considered as scientific misconduct?

1. ✓ Redundant publications
2. * Transparent reporting of research methods
Acknowledging sources properly
4. * Conducting research with integrity
Question Number : 50 Question Id : 97103639390 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Which term refers to communication within an organization's internal network?
Options :
1. * Internet
2. Intranet
3. * E-mail
4. * Extranet
Question Number: 51 Question Id: 97103639391 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What is the primary purpose of a web browser?
what is the primary purpose of a web blowser?





Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
How does ICT contribute to governance?
Options:
By slowing down bureaucratic processes
2. * By reducing transparency
By improving communication and decision-making
By increasing paperwork 4. **
Question Number : 56 Question Id : 97103639396 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In a research study investigating the relationship between sleep duration and academic
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In a research study investigating the relationship between sleep duration and academic performance, "sleep duration" is an example of a
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In a research study investigating the relationship between sleep duration and academic performance, "sleep duration" is an example of a Options:
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In a research study investigating the relationship between sleep duration and academic performance, "sleep duration" is an example of a Options: 1. ** Hypothesis

Question Number: 57 Question Id: 97103639397 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

In the context of ICT, what does the term "Extranet" refer to?

Options:

- Communication within an organization
- Publicly accessible network
- 3.

 ✓ Restricted network for specific users
- 4. * Email communication

Question Number: 58 Question Id: 97103639398 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which set of goals focuses on ending poverty, ensuring health, education, and environmental sustainability worldwide?

- Kyoto Protocol
- 2. * Rio Summit Goals
- 3. Sustainable Development Goals

4. * Montreal Protocol

Question Number : 59 Question Id : 97103639399 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

What is the term for human-induced activities that have a significant impact on the environment?

Options:

- Natural activities
- 2. Anthropogenic activities
- 3. * Environmental activities
- 4. * Sustainable activities

Question Number: 60 Question Id: 97103639400 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Which software tool is commonly used for statistical analysis in research?

- 1. * Microsoft Excel
- 2. * Adobe Photoshop

- 3. ✓ SPSS (Statistical Package for the Social Sciences)
- 4. * Microsoft Word

Question Number: 61 Question Id: 97103639401 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What is the significance of using graphics in data presentation?

Options:

- To confuse readers
- To hide important findings
- To simplify complex data
- 4 ★ To increase word count

Question Number : 62 Question Id : 97103639402 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Which resource is classified as a renewable energy source?

Options:

Nuclear energy

Fossil fuels 3.

✓ Solar energy Geothermal energy Question Number: 63 Question Id: 97103639403 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What international agreement aims to phase out substances responsible for ozone depletion? **Options:** Rio Summit 2. Montreal Protocol 3. * Kyoto Protocol Paris Agreement

Question Number : 64 Question Id : 97103639404 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What type of learning was emphasized in ancient India, focusing on traditional subjects like philosophy and literature?

1. * Non-conventional learning
2. ✓ Conventional learning
3. * Technical education
4. * Skill-based education
Question Number : 65 Question Id : 97103639405 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
National Sample Survey Organization conducts survey on education and employment every
Options :
1. * One year
2. ✓ Five years
3. * Six years
4. * Ten years
Question Number : 66 Question Id : 97103639406 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0 What marked the evolution of higher learning and research in Post Independence India? **Options:** Shift towards skill-based education 2. Emphasis on non-conventional learning 3. Establishment of new institutions and universities Decline in professional education Question Number: 67 Question Id: 97103639407 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 What does plagiarism refer to in research ethics? **Options:** Collaborating with other researchers Citing sources properly Using someone else's ideas without credit

Sharing research findings openly

Question Number: 68 Question Id: 97103639408 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 ICSSR is promoting research in the field of Options: Sciences
2. * Technical education
3. ✓ Social sciences
4. * Medicine
Question Number : 69 Question Id : 97103639409 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
What aspect of education is concerned with the moral and ethical development
of students?
Options:
1. * Skill-based education
2. Value education
3. * Technical education

4. * Non-conventional learning

Question Number: 70 Question Id: 97103639410 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Which Indian city hosted the 2023 International Film Festival of India (IFFI)?

Options:

- Mumbai
- 2. W Hyderabad
- 3. V Goa
- 4. * Kolkata

Biochemistry

Section Id: 971036560

Section Number: 2

Mandatory or Optional: Mandatory

Number of Questions: 70

Section Marks: 70

Enable Mark as Answered Mark for Review and

Clear Response:

Yes

Maximum Instruction Time: 0

Is Section Default?: null

Question Number: 71 Question Id: 97103639411 Display Question Number: Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
If the pH = pKa, the log of the ratio of dissociating acid and associated acid
will be
Options:
1. * Equal
2. Zero
3. * Greater than 1
4. * Less than 3
Question Number : 72 Question Id : 97103639412 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Which of the following is NOT a common buffer system in biological systems?
Options:
1. * Phosphate buffer system
2. * Carbonic acid bicarbonate buffer system
3. * Protein buffer system

4. ✓ Sulfate buffer system

Question Number: 73 Question Id: 97103639413 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The pH of human blood is typically around

Options:

- 1. * 5.5
- 2. * 7.0
- 3. 🗸 7.4
- 4. * 9.0

Question Number: 74 Question Id: 97103639414 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Phase-contrast microscopy enhances the contrast of

- Stained specimens
- Bright-field specimens
- 3. Transparent specimens

Opaque specimens

Question Number: 75 Question Id: 97103639415 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What will be the magnification of a macroscope with 10x eye piece and 40x objective.

Options:

1. × 40x

2. **4**00x

3. ***** 4000x

4. ***** 40000x

Question Number: 76 Question Id: 97103639416 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

In which microscope does a beam of electrons scan the specimen's surface to produce a 3D image?

Options:

Transmission electron microscope

Scanning electron microscope

- 3. * Dark field microscope
- Atomic force microscope

Question Number: 77 Question Id: 97103639417 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What is the primary role of a cryoprotectant in cryopreservation of biological samples?

Options:

- Preventing ice formation
- 2. * Enhancing cell growth
- 3. * Accelerating enzyme activity
- 4. * Increasing ice formation

Question Number : 78 Question Id : 97103639418 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

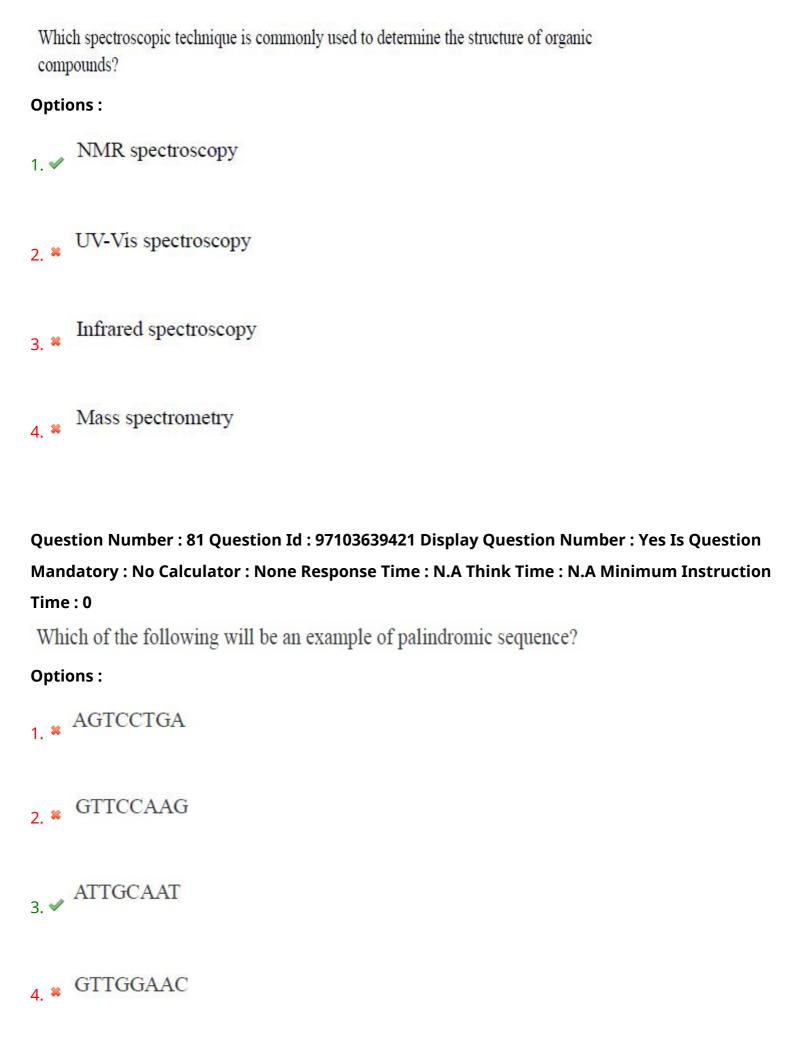
Beer-Lambert law describes the relationship between

Options:

Absorbance, concentration, and path length

Absorbance, temperature, and time Wavelength, frequency, and amplitude Transmittance, concentration, and time Question Number: 79 Question Id: 97103639419 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In mass spectrometer, the sample that has to be analyzed is bombarded with which of the following? **Options:** Protons 2. ✓ Electrons Neutrons 4. * Alpha particles

Question Number: 80 Question Id: 97103639420 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0



Question Number : 82 Question Id : 97103639422 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
In enzyme kinetics, the Michaelis-Menten constant (KM) is a measure of?
Options :
Enzyme concentration 1. **
2. Substrate concentration
Inhibitor concentration 3. **
4. * Product concentration
Question Number : 83 Question Id : 97103639423 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
What is the primary purpose of a microarray in genomics research?
Options :
1. * Sequencing DNA
2. ** Identifying proteins
3. ✓ Studying gene expression

Question Number: 84 Question Id: 97103639424 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

During which phase of the cell cycle does cell division occur?

Options:

- G1 phase
- 2. S phase
- 3. S G2 phase
- 4. ✓ M phase

Question Number: 85 Question Id: 97103639425 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Isoenzymes are characterized by

- Differences in amino acid composition and sequence
- 2. * Differences in substrate specificity
- Differences in pH optimum

Differences in molecular weight Question Number: 86 Question Id: 97103639426 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 An example of competitive inhibition of an enzyme is the inhibition of **Options:** 1. ✓ Succinic dehydrogenase by malonic acid 2. * Cytochrome oxidase by cyanide 3. * Hexokinase by Glucose-6 phosphate Carbonic anhydrase by carbon dioxide Question Number: 87 Question Id: 97103639427 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which region of the electromagnetic spectrum does ESR spectroscopy primarily utilize?

- 1. * Far infrared region
- 2. * Infrared region

3.

✓ Microwave region 4. * Near UV Question Number: 88 Question Id: 97103639428 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The following hormones are responsible for "fight-or-flight" response Options: Thyroxine and melatonin 2. * Insulin and glucagon 3. Epinephrine and norepinephrine Oestrogen and progesterone Question Number: 89 Question Id: 97103639429 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 A reversed phase chromatography column typically has a stationary phase that is? **Options:** 1. Hydrophobic

2. * Hydrophilic

- 3. * Positively charged
- 4. * Negatively charged

Question Number: 90 Question Id: 97103639430 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Which centrifuge type is suitable for isolating cellular components based on their sedimentation rates?

Options:

- Analytical ultracentrifuge
- 2. * Micro centrifuge
- 3. Differential centrifuge
- Preparative ultracentrifuge

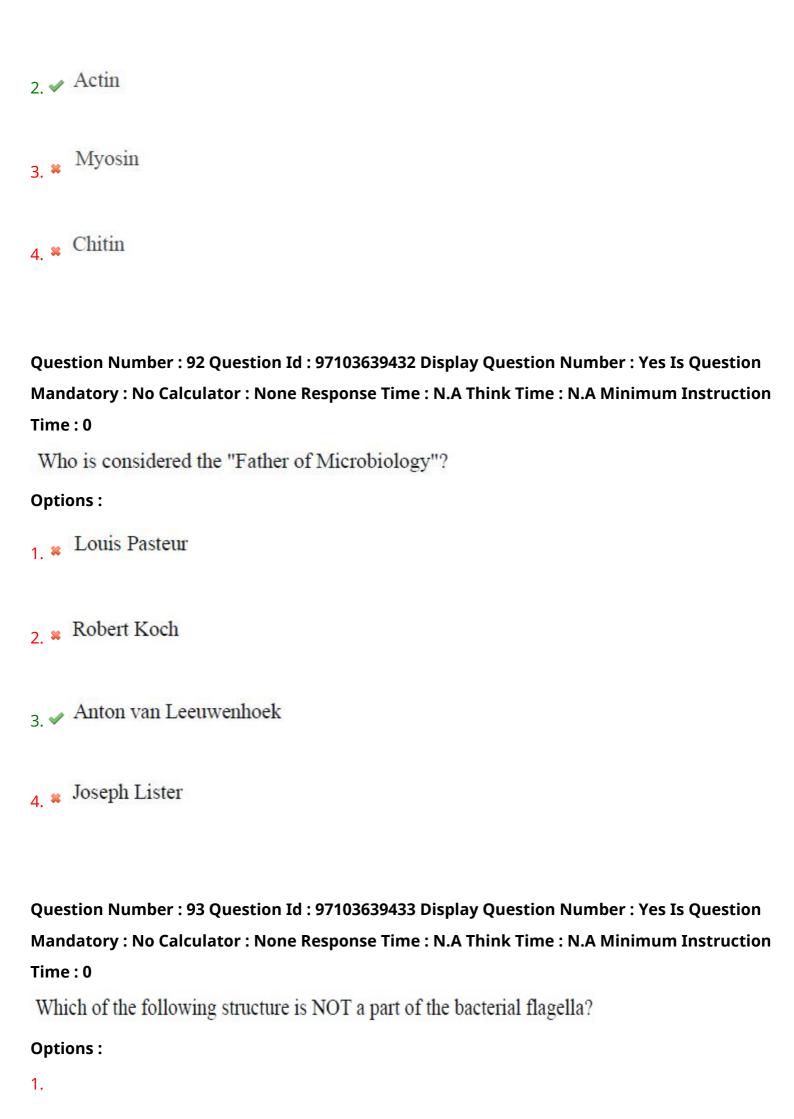
Question Number: 91 Question Id: 97103639431 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

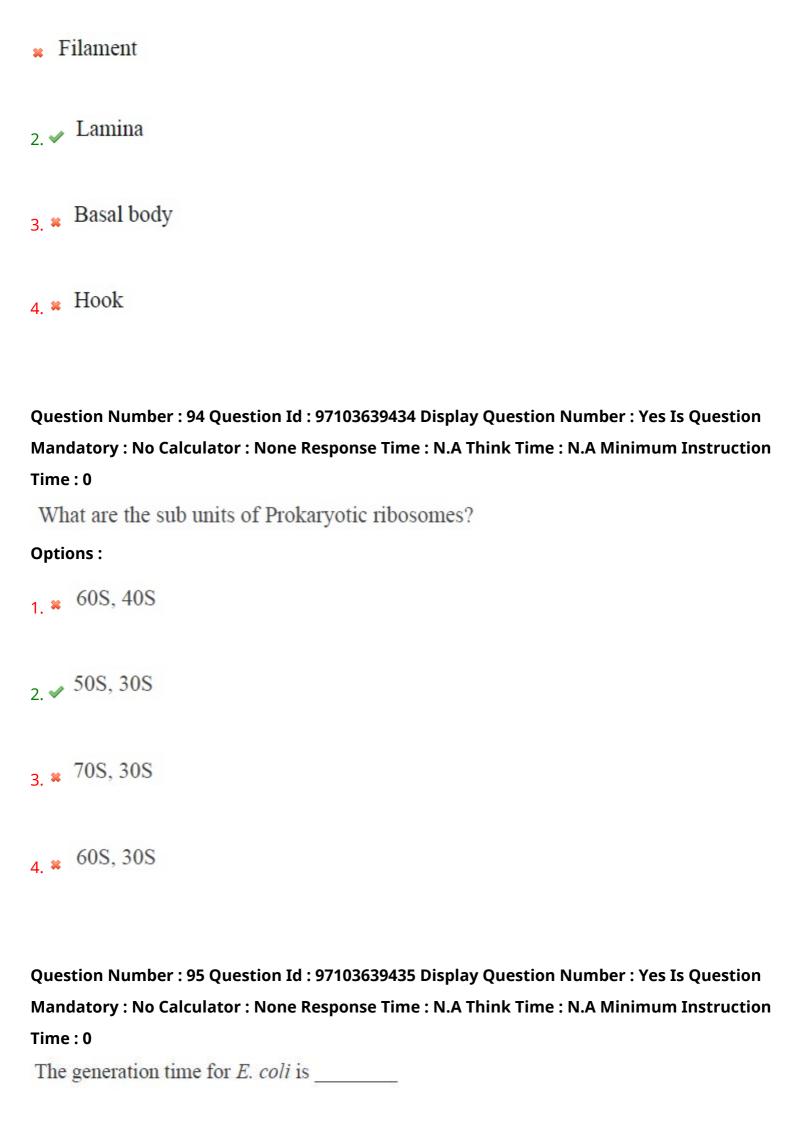
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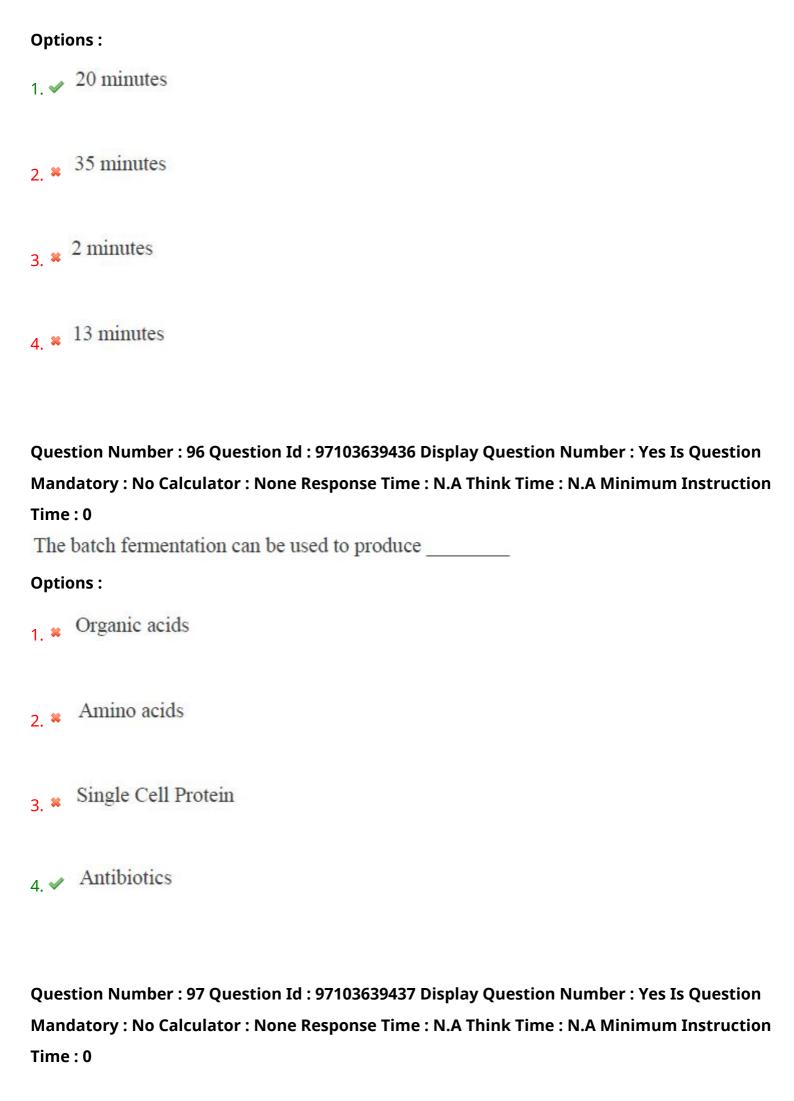
Microfilaments are composed of a protein called

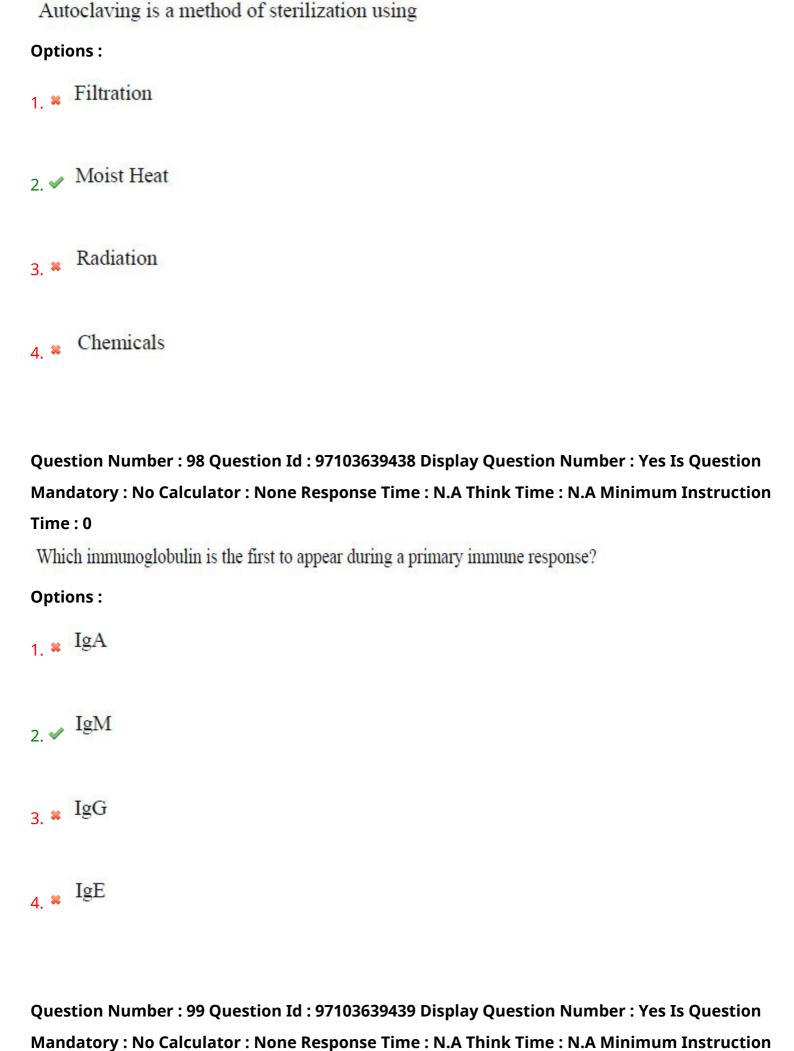
Options:

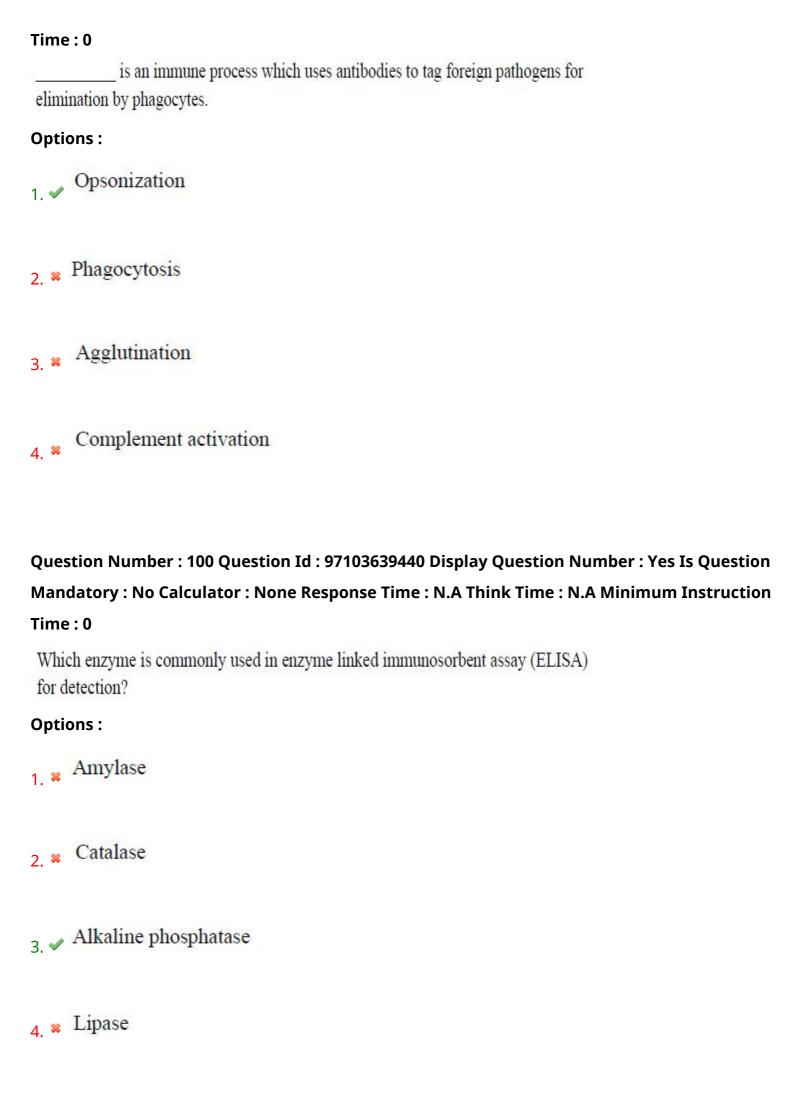
1. * Tubulin











Question Number: 101 Question Id: 97103639441 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What is the role of memory cells in the immune system?

Options:

- Produce antibodies during primary response
- Recognize and respond to specific antigens upon re-exposure
- Activate complement proteins
- 4. * Induce inflammation

Question Number : 102 Question Id : 97103639442 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

What is the primary function of interferons?

Options:

Time: 0

- Enhance phagocytosis
- 2. Inhibit viral replication
- 3. * Activate complement pathways
- Stimulate antibody production

Question Number: 103 Question Id: 97103639443 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which hypersensitivity reaction is mediated by cytotoxic T cells and macrophages?

Options:

- 1. * Type I
- 2. * Type II
- 3. * Type III
- 4. Type IV

Question Number : 104 Question Id : 97103639444 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

A chromosomal abnormality where a part of one chromosome is exchanged with a part of another chromosome is called

- 1. * Deletion
- 2. Duplication
- 3. * Inversion

4. Translocation

Question Number : 105 Question Id : 97103639445 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The enzyme responsible for synthesizing complementary DNA from a RNA template is

Options:

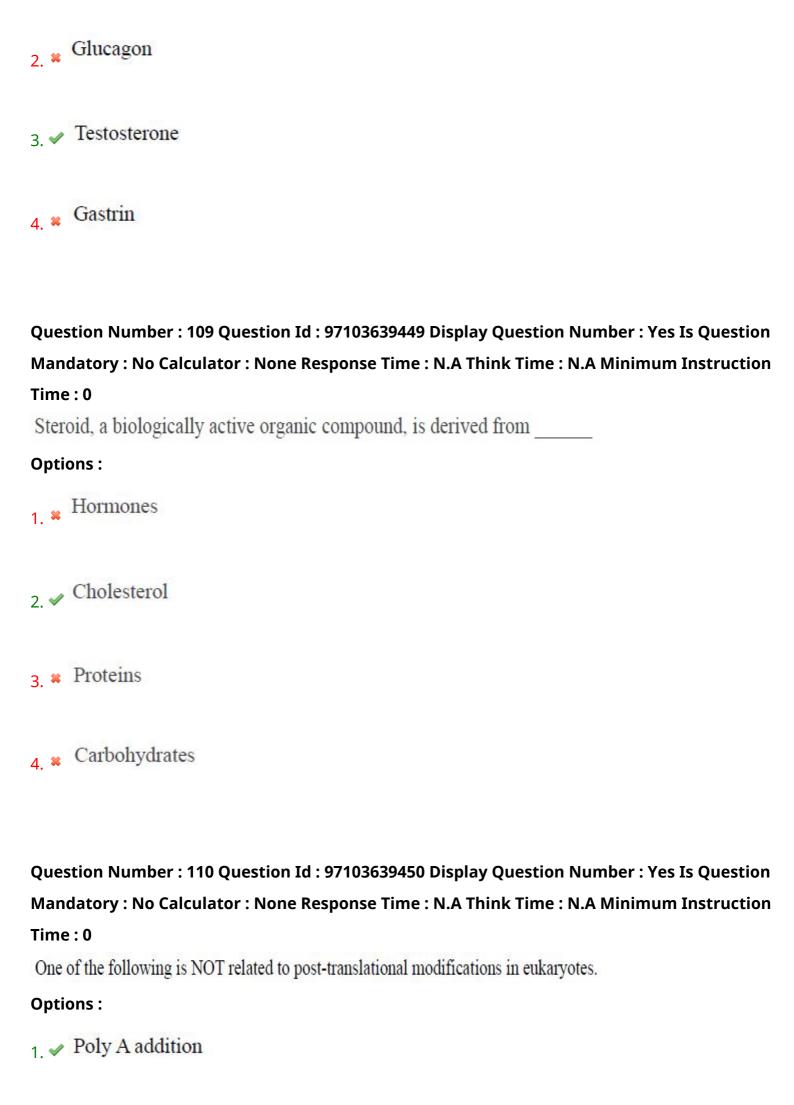
- 1. * DNA polymerase
- 2. * RNA polymerase
- 3. Reverse transcriptase
- 4. ★ Taq DNA polymerase

Question Number: 106 Question Id: 97103639446 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

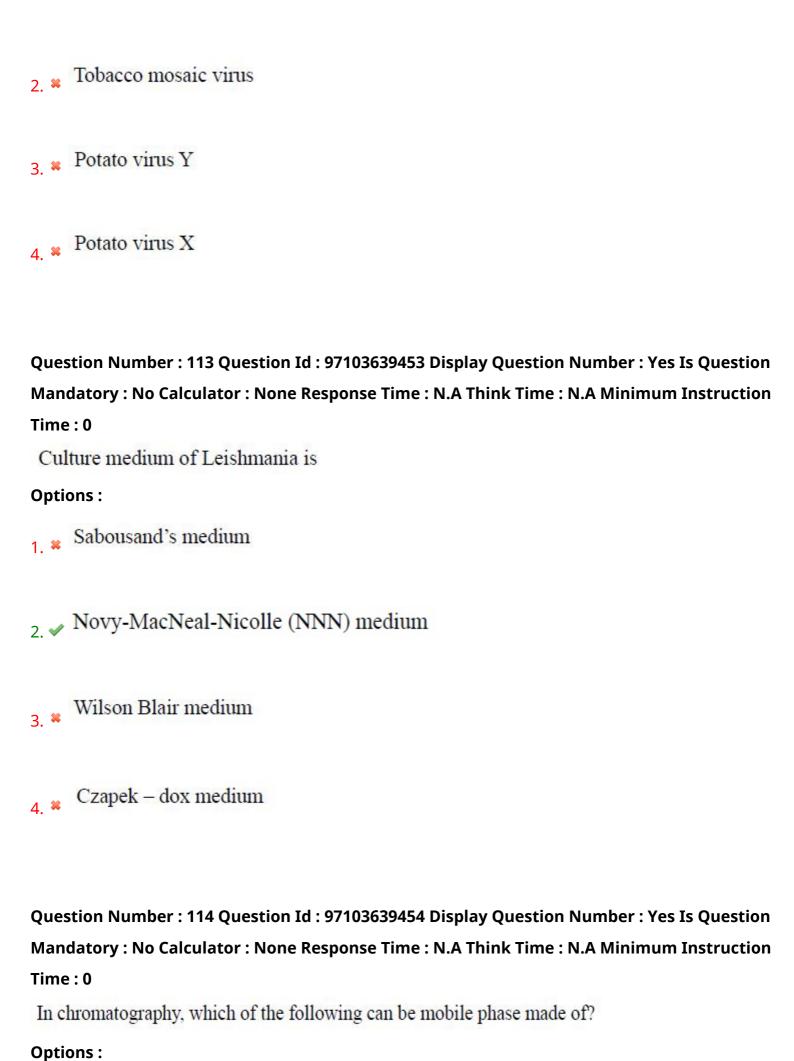
The atomic number is not changed by which type of radioactive decay?

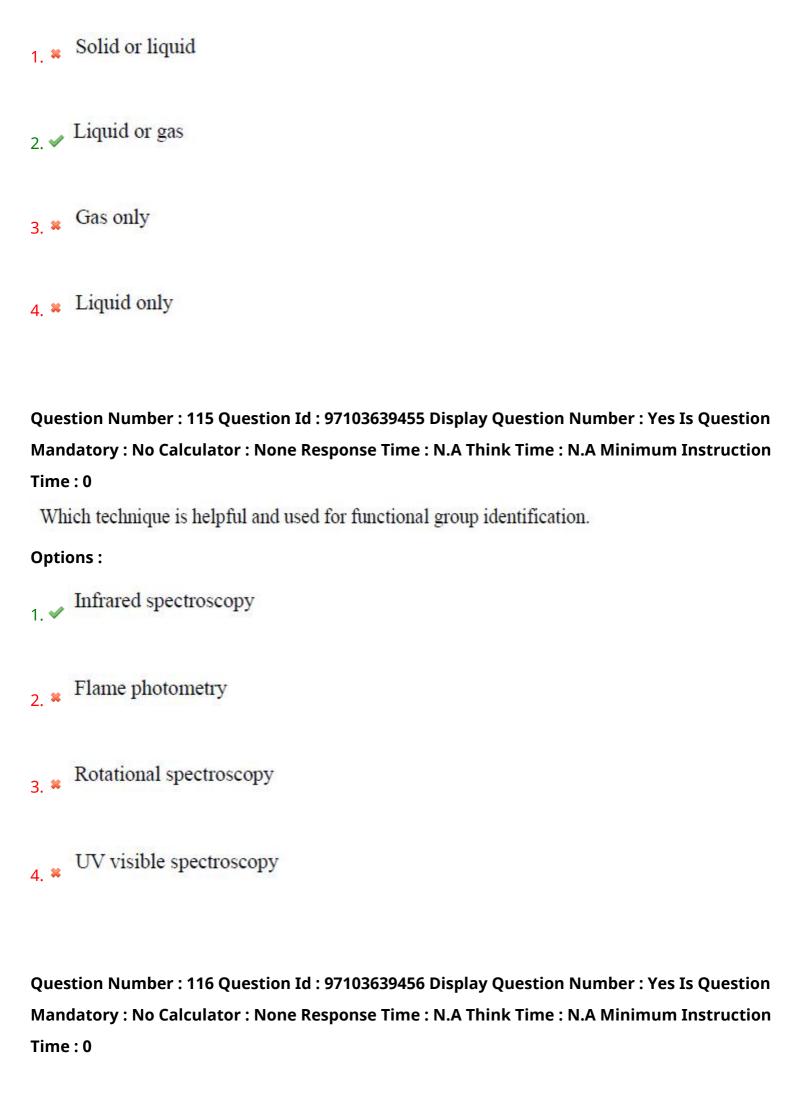
- Beta radiation
- 2. Gamma radiation

3. * Alpha radiation
The atomic number is affected by all forms of radioactive decay
Question Number : 107 Question Id : 97103639447 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Sodium-potassium pump is an example of
Options:
1. ✓ Active transport
2. * Passive transport
3. * Endocytosis
4. * Exocytosis
Question Number : 108 Question Id : 97103639448 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Mark the signal molecule which does not interact with cell surface receptor.
Options :
1. * Insulin



2. * Glycosylation
3. * Phosphorylation
4. * Addition of disulfide bonds
Question Number : 111 Question Id : 97103639451 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Which of the following is NOT an antigen presenting cell
Options :
1. * B cell
2. * Dendritic cell
Macrophage 3. **
4. ✓ T cell
Question Number : 112 Question Id : 97103639452 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
One of the following virus is having icosahedral structure
Options :
1. Cucumber mosaic virus





Pyruvate generated by glycolysis, is converted to acetyl-coenzyme A, which is metabolized by citric acid cycle, generating energy rich molecules. From the choices given below, select the right combination of these molecules produced from one molecule of acetyl-co A.

Options:

Question Number: 117 Question Id: 97103639457 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The general mechanism is that an enzyme acts by

- Reducing the activation energy
- 2. * Increasing activation energy
- 3. * Decreasing the rate of reaction
- 4. * Increasing the pH value

Question Number: 118 Question Id: 97103639458 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

During DNA replication, the leading strand replicates in

Options:

5' - 3' direction discontinuously

3' - 5' direction continuously

5' - 3' direction continuously

3' − 5' direction discontinuously

Question Number: 119 Question Id: 97103639459 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The non-sense codons help in

Options:

Termination of anticodons

2. * Formation of long polypeptide chain

3. * Inhibition of toxic proteins

Termination of polypeptide chain

Question Number : 120 Question Id : 97103639460 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Which of the following process refers to the uptake of naked DNA from the surrounding environment into *E. coli*?

Options:

- Conjugation
- 2. * Generalized transduction
- 3. * Specialized transduction
- 4. Transformation

Question Number: 121 Question Id: 97103639461 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

DEAE-Cellulose is used for

- Gel-filtration chromatography
- 2. Ion exchange chromatography

3. * Affinity chromatography 4. * HPLC Question Number: 122 Question Id: 97103639462 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The following vectors are useful for expression of genes in insect cells? Options: 1. Bacmids 2. * YACs and BACs Integrated vectors 4. Plasmids Question Number: 123 Question Id: 97103639463 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which among the following is a "Spirochete"? **Options:** 1. * Spirillum volutans 2. * Corynebacterium diphtheria

3. ** Streptomyces sp.
4. ✓ Treponema pallidum
Question Number : 124 Question Id : 97103639464 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Liquid scintillation spectrometry is a method of detecting
Options:
1. * X-rays
2. * α-emitters
3. β-emitters
4. * Gamma rays
Question Number : 125 Question Id : 97103639465 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

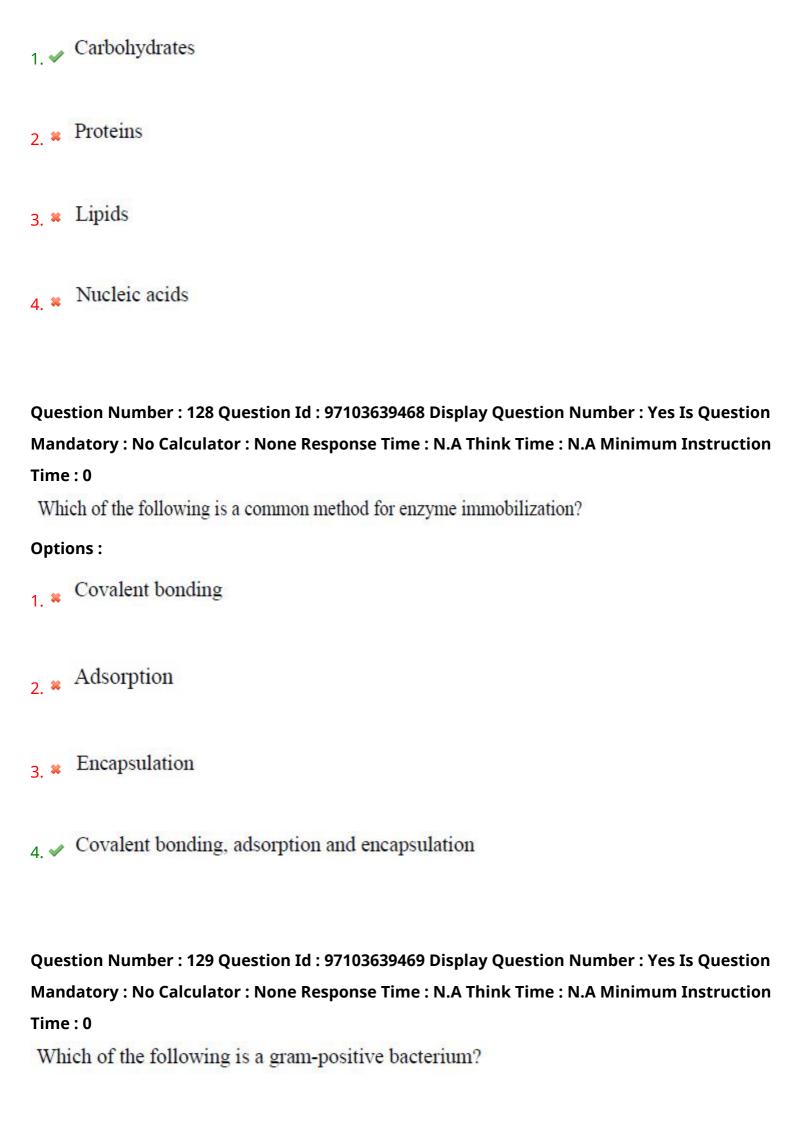
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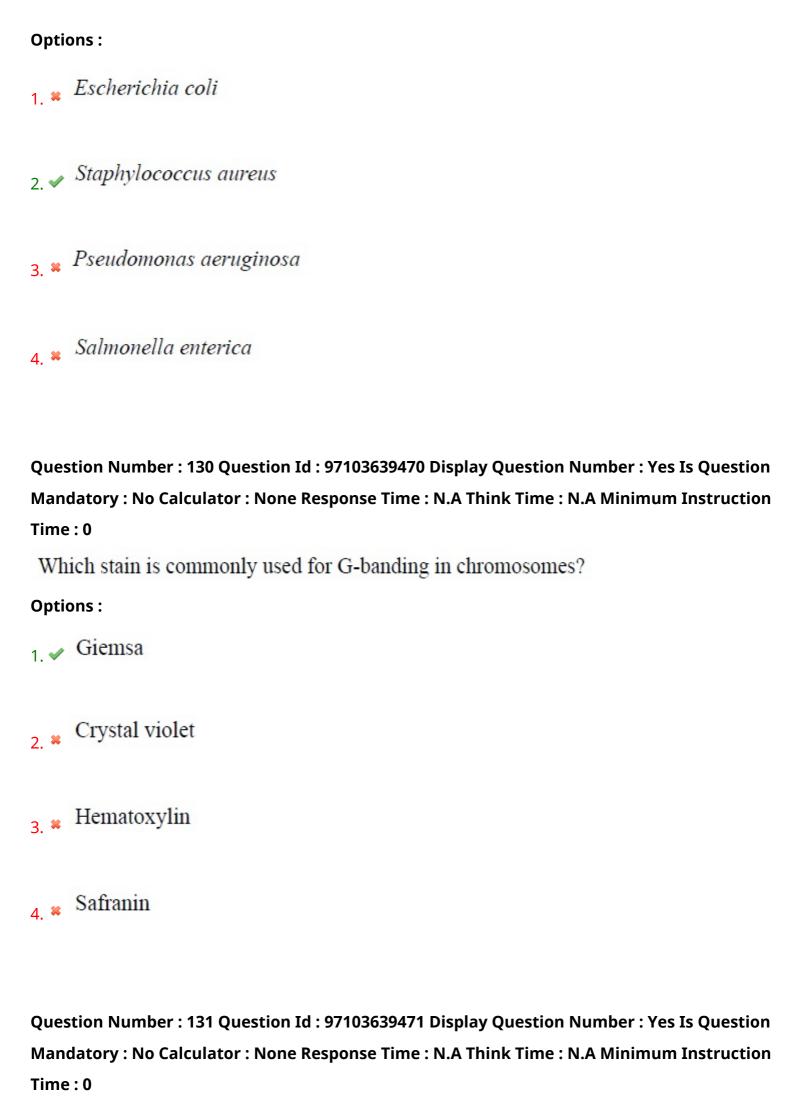
In SDS-PAGE, protein sample is first treated with detergent sodium dodecyl sulfate (SDS), in order to

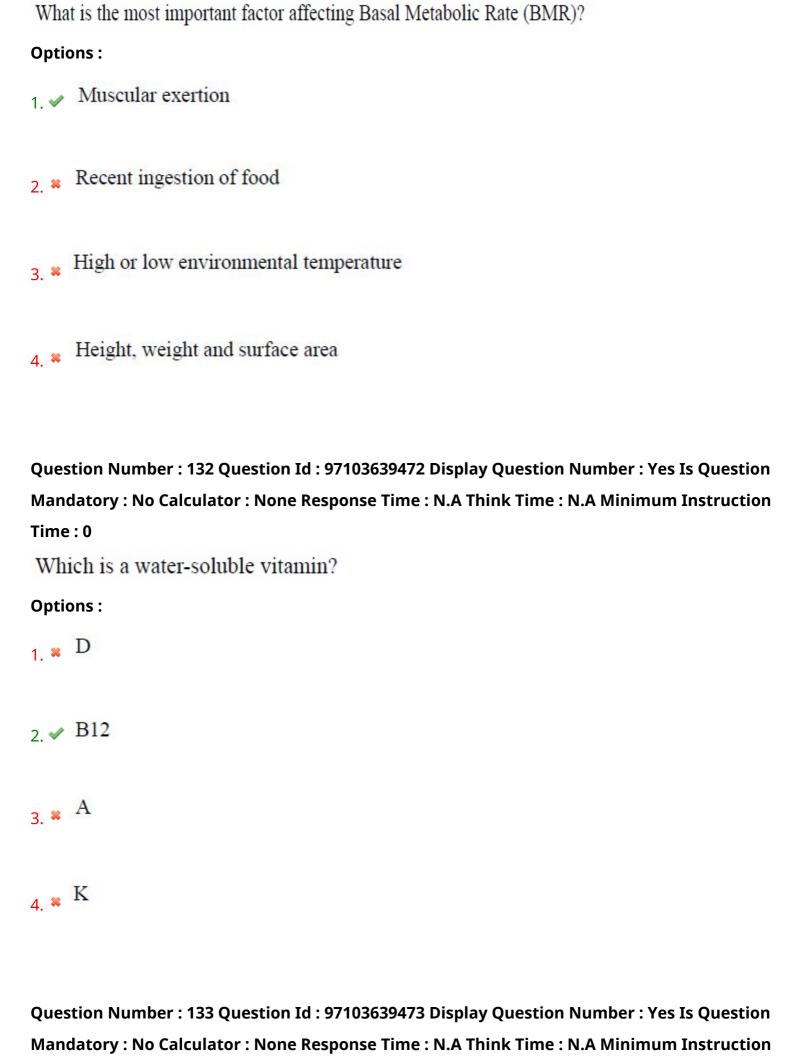
Options:

1. Make the protein become negatively charged

2. * Make the protein become positively charged
3. * Renature the protein
4. * Adjust the pH of protein
Question Number: 126 Question Id: 97103639466 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which organelle contains enzymes for intracellular digestion?
Options:
1. V Lysosome
2. * Peroxisome
3. * Golgi apparatus
4. * Nucleus
Question Number: 127 Question Id: 97103639467 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which macromolecule serves as the main energy source in cells?
Options:







Time: 0

With regard to carbohydrate metabolism, one of the following statement is true

Options:

- The normal fasting glucose is from 3.9 to 11.0 mmol/L
- Glucose is phosphylated in cells to glucose-6-phosphate by phosphoenol-pyrunate carboxykinase
- Glycogen, the storage form of glucose, is only in the liver and skeletal muscle

Question Number: 134 Question Id: 97103639474 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Regarding the synthesis of thyroid hormones, which statement is INCORRECT?

- Iodine undergoes rapid oxidation following entry to thyroid cells
- The "iodine pump" is the major source of iodine for hormone synthesis
- TSH increases iodine uptake by the thyroid gland
- Thiocyanate and ouabain decrease iodine uptake by the thyroid gland

Question Number : 135 Question Id : 97103639475 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
In prokaryotes, the promoter region is found
Options:
1. ✓ Upstream from the transcription start site
2. Downstream of the transcription start site
3. Within the coding sequence
In the middle of the gene
Question Number: 136 Question Id: 97103639476 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
Down syndrome is caused by
Options:
1. ✓ Trisomy 21
2. * Monosomy X
3. * Trisomy 18
4. * Turner syndrome

Question Number: 137 Question Id: 97103639477 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 When was the Human Genome Project officially launched? **Options:** 1. * 1985 2. 🗸 1990 3. * 2000 4. * 2010 Question Number: 138 Question Id: 97103639478 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Marasmus is characterized by **Options:** Excessive carbohydrate intake 2. Severe nutrition deficiency 3. * Excessive fat intake

4. * Vitamin D deficiency

Question Number: 139 Question Id: 97103639479 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following is a saturated fat source? **Options:** Olive oil 2. * Avocado 3. Butter 4. Flaxseed oil Question Number: 140 Question Id: 97103639480 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which lipoprotein contains the greatest proportion of triglycerides? **Options:** VLDL 2. HDL

3. Chylomicrons