

National Testing Agency

Question Paper Name :	Agricultural Physics 17th September Shift 2
Subject Name :	Agricultural Physics
Creation Date :	2021-09-17 18:54:54
Duration :	120
Total Marks :	480
Display Marks:	Yes

Agricultural Physics

Group Number :	1
Group Id :	190889137
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	480
Is this Group for Examiner? :	No

Part A: General Knowledge

Section Id :	190889335
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889375
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 19088915742 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

Which of the following is the device used to measure the power and speed of the wind?

1. Avometer
2. Anemometer
3. Airometer
4. Aviontimeter

Options :

- 19088962861. 1
- 19088962862. 2
- 19088962863. 3
- 19088962864. 4

Question Number : 2 Question Id : 19088915743 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

Optical fibre used the concept of which of the following?

1. Reflection
2. Refraction
3. Total internal reflection
4. Total internal refraction

Options :

- 19088962865. 1
- 19088962866. 2
- 19088962867. 3
- 19088962868. 4

Question Number : 3 Question Id : 19088915744 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Yellow vein mosaic is the viral disease of which of the following plants?

- 1. Ladyfinger
- 2. Papaya
- 3. Sugarcane
- 4. Banana

Options :

- 19088962869. 1
- 19088962870. 2
- 19088962871. 3
- 19088962872. 4

Question Number : 4 Question Id : 19088915745 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following organ(s) is affected by Mumps disease?

- 1. Entire body
- 2. Skin
- 3. Eye
- 4. Parotid

Options :

- 19088962873. 1
- 19088962874. 2
- 19088962875. 3

19088962876. 4

Question Number : 5 Question Id : 19088915746 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is the chemical name of vitamin B₂?

1. Riboflavin
2. Calciferol
3. Pyridoxin
4. Niacin

Options :

19088962877. 1

19088962878. 2

19088962879. 3

19088962880. 4

Question Number : 6 Question Id : 19088915747 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is not the input unit of the computer?

1. Mouse
2. Keyboard
3. Screen
4. Scanner

Options :

19088962881. 1

19088962882. 2

19088962883. 3

19088962884. 4

Question Number : 7 Question Id : 19088915748 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The digital computer operates on which of the following principle?

1. Measurement
2. Calculation
3. Logical
4. Electrification

Options :

19088962885. 1

19088962886. 2

19088962887. 3

19088962888. 4

Question Number : 8 Question Id : 19088915749 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The non-cooperation movement of Gandhiji was launched in which of the following year?

1. 1915
2. 1922
3. 1920
4. 1930

Options :

19088962889. 1

19088962890. 2

19088962891. 3

19088962892. 4

Question Number : 9 Question Id : 19088915750 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

An Islamic revivalist movement named Wahabi movement was founded by which of the following person?

1. Sian Saheb
2. Syed Ahmed
3. Haji Shariat-Allah
4. DaduMian

Options :

19088962893. 1

19088962894. 2

19088962895. 3

19088962896. 4

Question Number : 10 Question Id : 19088915751 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is considered as the “Magna Carta of England Education in India”?

1. Hunter education commission
2. Lord Macaulay’s Minute
3. Wood’s Despatch
4. Thomas Babington Macaulay

Options :

19088962897. 1

19088962898. 2

19088962899. 3

19088962900. 4

Question Number : 11 Question Id : 19088915752 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following nutrient does not come under the ambit of 'macro-nutrients in Soil Health Card?

1. Nitrogen
2. Zinc
3. Phosphorous
4. Potassium

Options :

19088962901. 1

19088962902. 2

19088962903. 3

19088962904. 4

Question Number : 12 Question Id : 19088915753 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Cole crops, root crops and legumes come under the ambit of which of the following?

1. Olericulture
2. Pomology
3. Viticulture
4. Arboriculture

Options :

19088962905. 1

19088962906. 2

19088962907. 3

19088962908. 4

Question Number : 13 Question Id : 19088915754 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The study of individual trees, shrubs, vines, and perennial woody plants is known as which of the following?

1. Turf management
2. Arboriculture
3. Pomology
4. Viticulture

Options :

19088962909. 1

19088962910. 2

19088962911. 3

19088962912. 4

Question Number : 14 Question Id : 19088915755 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The ministry is implementing MIDH (Mission for Integrated Development of Horticulture) with effect from which of the following year?

1. 2012-13
2. 2019-20
3. 2015-16
4. 2014-15

Options :

19088962913. 1

19088962914. 2

19088962915. 3

19088962916. 4

Question Number : 15 Question Id : 19088915756 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The interaction of soils with living things, particularly plants are well known as which of the following?

1. Edaphology
2. Pedology
3. Soil zoology
4. Pedogenesis

Options :

19088962917. 1

19088962918. 2

19088962919. 3

19088962920. 4

Question Number : 16 Question Id : 19088915757 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following systems has also incorporated social aspects in itself?

1. Landscaping
2. Permaculture
3. Horticulture
4. Forest gardening

Options :

19088962921. 1

19088962922. 2

19088962923. 3

19088962924. 4

Question Number : 17 Question Id : 19088915758 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What do you term the phenomenon whereby the specific gene is added to the plant for producing a desirable phenotype?

1. Genetic manipulation
2. Genetic recombination
3. Genetic modification
4. Genetic hybridisation

Options :

19088962925. 1

19088962926. 2

19088962927. 3

19088962928. 4

**Question Number : 18 Question Id : 19088915759 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

What is the focus of the participatory plant breeding program?

1. Scientists
2. Plants
3. Environment
4. Farmers

Options :

19088962929. 1

19088962930. 2

19088962931. 3

19088962932. 4

**Question Number : 19 Question Id : 19088915760 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

How do you term the form of agriculture, in which, industrialized production of crops and animal products takes place?

1. Manufactured agriculture
2. Modern agriculture
3. Industrial agriculture
4. Mechanistic agriculture

Options :

19088962933. 1

19088962934. 2

19088962935. 3

19088962936. 4

**Question Number : 20 Question Id : 19088915761 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Micro-irrigation fund of Rs. 5,000 crore has been placed with which of the following organization?

1. NABARD
2. IDBI
3. SBI
4. RRBs

Options :

19088962937. 1

19088962938. 2

19088962939. 3

19088962940. 4

Part B Core : Natural Resource Management-I

Section Id : 190889336

Section Number : 2

Section type : Online

Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889376
Question Shuffling Allowed :	Yes

Question Number : 21 Question Id : 19088915762 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Digital Interpretation of forest data for the entire country has been done by Forest Survey of India, Dehradun from which cycle of assessment?

- 1. Fifth
- 2. Eighth
- 3. Ninth
- 4. Tenth

Options :

- 19088962941. 1
- 19088962942. 2
- 19088962943. 3
- 19088962944. 4

Question Number : 22 Question Id : 19088915763 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

As per ISFR 2019, the area (sq km) under moderate dense forest is

1. 3, 04, 499
2. 3, 08, 472
3. 3, 12, 684
4. 3, 16, 359

Options :

19088962945. 1

19088962946. 2

19088962947. 3

19088962948. 4

Question Number : 23 Question Id : 19088915764 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
Act	Year
A. National Green Tribunal Act	I. 2002
B. Biodiversity Act	II. 2010
C. The Environment (Protection) Act	III. 1991
D. The Public Liability Insurance act	IV. 1986

Choose the **correct** answer from the options given below:

1. A - IV, B - II, C - III, D - I
2. A - III, B - I, C - IV, D - II
3. A - II, B - I, C - IV, D - III
4. A - II, B - III, C - I, D - IV

Options :

19088962949. 1

19088962950. 2

19088962951. 3

19088962952. 4

Question Number : 24 Question Id : 19088915765 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In India, the CGS of measurement was adopted in the year:

1. August, 1947
2. January, 1950
3. October, 1962
4. June, 1972

Options :

19088962953. 1

19088962954. 2

19088962955. 3

19088962956. 4

Question Number : 25 Question Id : 19088915766 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The 'Bidi' is a thin cigarette or mini-cigar filled with tobacco flake and commonly wrapped in leaves of:

1. *Bauhinia vahlii*
2. *Grewia optiva*
3. *Diospyros melanoxylon*
4. *Terminalia tomentosa*

Options :

19088962957. 1

19088962958. 2

19088962959. 3

19088962960. 4

Question Number : 26 Question Id : 19088915767 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Under Atamnirbhar Bharat Abhiyan, import duty on bamboo has been increased/decreased to encourage domestic use of bamboo

1. No change
2. 5 to 15%
3. 10 to 25%
4. 15 to 50%

Options :

19088962961. 1

19088962962. 2

19088962963. 3

19088962964. 4

Question Number : 27 Question Id : 19088915768 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange the phases of Indian forest transition in the correct sequence.

- A. Deforestation phase
- B. Agriculture stabilization phase
- C. Afforestation phase
- D. Conservation and sustainable management

Choose the *correct* answer from the options given below:

1. A, B, C and D
2. A, C, B and D
3. A, B, D and C
4. D, B, C and A

Options :

19088962965. 1

19088962966. 2

19088962967. 3

19088962968. 4

Question Number : 28 Question Id : 19088915769 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
International Day	Date and Month
A. Earth day	I. 22 May
B. Biodiversity day	II. 21 March
C. Environment day	III. 5 June
D. International day of forests	IV. 22 April

Choose the **correct** answer from the options given below

1. A - IV, B - I, C - III, D - II
2. A - III, B - I, C - IV, D - II
3. A - II, B - I, C - IV, D - III
4. A - II, B - I, C - III, D - IV

Options :

19088962969. 1

19088962970. 2

19088962971. 3

19088962972. 4

Question Number : 29 Question Id : 19088915770 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Under Kyoto Protocol, developing countries (non-annex 1 country) are eligible for:

1. Emission trading only
2. Joint Implementation only
3. Clean Development Mechanism only
4. Emission trading and Clean development Mechanism

Options :

19088962973. 1

19088962974. 2

19088962975. 3

19088962976. 4

Question Number : 30 Question Id : 19088915771 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Van Dhan Yojana or Van Dhan Scheme an initiative targeting livelihood generation for tribal gatherers was launched in 2015

Statement II: Major objective of Van Dhan Yojana or Van Dhan Scheme of GOI was to transforming tribals into entrepreneurs

In light of the above statements, choose the *most appropriate* answer from the options given below

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088962977. 1

19088962978. 2

19088962979. 3

19088962980. 4

Question Number : 31 Question Id : 19088915772 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statement is correct about maximum thermometer and minimum thermometer in Stevenson screen?

1. Both are placed vertically
2. Both are placed horizontally
3. Maximum thermometer is placed horizontally and minimum thermometer vertically
4. Both are placed at 30^0 angle with horizontal

Options :

19088962981. 1

19088962982. 2

19088962983. 3

19088962984. 4

Question Number : 32 Question Id : 19088915773 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which clouds are associated with Nor'wester shower?

1. Nimbostratus clouds
2. Cumulonimbus clouds
3. Altostratus clouds
4. Noctilucent clouds

Options :

19088962985. 1

19088962986. 2

19088962987. 3

19088962988. 4

Question Number : 33 Question Id : 19088915774 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Who invented Barometer?

1. Edmand Halley
2. Benedetto Castelli
3. Evangelista Torricelli
4. Galileo Galilei

Options :

19088962989. 1

19088962990. 2

19088962991. 3

19088962992. 4

Question Number : 34 Question Id : 19088915775 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following climatic phenomena brings rainfall in Tamil Nadu from November to January ?

1. South west monsoon
2. North east monsoon
3. Nor'wester shower
4. Western disturbances

Options :

19088962993. 1

19088962994. 2

19088962995. 3

19088962996. 4

Question Number : 35 Question Id : 19088915776 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the normal date of onset of monsoon in Kerala ?

1. May 25
2. June 1
3. June 15
4. June 29

Options :

19088962997. 1

19088962998. 2

19088962999. 3

19088963000. 4

Question Number : 36 Question Id : 19088915777 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the full form of IMD ?

1. India Meteorological Department
2. Indian Metrology Department
3. Indian Meteorological Division
4. International Meteorological Department

Options :

19088963001. 1

19088963002. 2

19088963003. 3

19088963004. 4

Question Number : 37 Question Id : 19088915778 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the value of one knot in km/h?

1. 1.301
2. 1.609
3. 1.852
4. 3.000

Options :

19088963005. 1

19088963006. 2

19088963007. 3

19088963008. 4

Question Number : 38 Question Id : 19088915779 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Read the statements below:

- A. Latitudes are parallel to each other.
- B. Longitudes are parallel to each other.
- C. International date line is approximately on or near 180° longitude.
- D. 0° latitude is called equator.

Choose the *correct* answer from the options given below:

- 1. A, B and D only
- 2. A, B and C only
- 3. A, C and D only
- 4. A and D only

Options :

19088963009. 1

19088963010. 2

19088963011. 3

19088963012. 4

**Question Number : 39 Question Id : 19088915780 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Arrange the following according to increasing wind speed.

- A. Cyclonic Storm
- B. Deep Depression
- C. Depression
- D. Low Pressure

Choose the *correct* answer from the options given below

- 1. A, B, C, D
- 2. C, B, D, A
- 3. B, C, D, A
- 4. D, C, B, A

Options :

19088963013. 1

19088963014. 2

19088963015. 3

19088963016. 4

Question Number : 40 Question Id : 19088915781 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which law states that the wavelength of maximum intensity of radiation emitted by a black body is inversely proportional to its absolute temperature?

1. Planck's Law
2. Stefan-Boltzman's Law
3. Kirchhoff's Law
4. Wein's Displacement Law

Options :

19088963017. 1

19088963018. 2

19088963019. 3

19088963020. 4

Question Number : 41 Question Id : 19088915782 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is NOT a form of precipitation?

1. Rain
2. Dew
3. Snow
4. Virga

Options :

19088963021. 1

19088963022. 2

19088963023. 3

Question Number : 42 Question Id : 19088915783 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
Atmospheric phenomena	Meteor class
A. Rainbow	I. Hydrometeor
B. Dust storm	II. Electrometeor
C. Thunderstorm	III. Photometeor
D. Snowfall	IV. Lithometeor

Choose the **correct** answer from the options given below:

1. A - II, B - IV, C - III, D - I
2. A - III, B - IV, C - II, D - I
3. A - I, B - IV, C - II, D - III
4. A - IV, B - III, C - II, D - I

Options :

19088963025. 1

19088963026. 2

19088963027. 3

19088963028. 4

Question Number : 43 Question Id : 19088915784 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the value of environmental lapse rate at troposphere?

1. $10^{\circ}\text{C km}^{-1}$
2. $6.5^{\circ}\text{C km}^{-1}$
3. $4.5^{\circ}\text{C km}^{-1}$
4. $3.5^{\circ}\text{C km}^{-1}$

Options :

19088963029. 1

19088963030. 2

19088963031. 3

19088963032. 4

**Question Number : 44 Question Id : 19088915785 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

Assertion A : Polar regions of the earth get nearly six-month day and six-month night in a year.

Reason R : Day and night occur due to rotation of the earth on its own axis.

In light of the above statements, choose the *correct* answer from the options given below

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is NOT the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

19088963033. 1

19088963034. 2

19088963035. 3

19088963036. 4

**Question Number : 45 Question Id : 19088915786 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Select the correct statements from the following:

- A. Prevailing westerlies are related to Ferrel cell.
- B. Trade winds are related to Hadley cell.
- C. Prevailing westerlies are related to Hadley cell.
- D. Polar cell gives rise to polar easterlies.

Choose the *correct* answer from the options given below.

- 1. A and B only
- 2. B, C and D only
- 3. A, B and D only
- 4. A, B and C only

Options :

19088963037. 1

19088963038. 2

19088963039. 3

19088963040. 4

Question Number : 46 Question Id : 19088915787 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Who wrote the book "Talking environment"?

- 1. Sunita Narayan
- 2. Al Gore
- 3. R. K. Pachauri
- 4. Vandana Shiva

Options :

19088963041. 1

19088963042. 2

19088963043. 3

19088963044. 4

Question Number : 47 Question Id : 19088915788 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which decade considered as United Nation's "Decade of Biodiversity"?

1. 2001-2010
2. 2011-2020
3. 1991-2000
4. 1981-1990

Options :

19088963045. 1

19088963046. 2

19088963047. 3

19088963048. 4

Question Number : 48 Question Id : 19088915789 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the major component of flyash?

1. Al_2O_3
2. K_2O
3. Fe_2O_3
4. SiO_2

Options :

19088963049. 1

19088963050. 2

19088963051. 3

19088963052. 4

Question Number : 49 Question Id : 19088915790 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In which device corona discharge occurs?

1. Wet scrubber
2. Thermal precipitator
3. Catalytic precipitator
4. Electrostatic precipitator

Options :

19088963053. 1

19088963054. 2

19088963055. 3

19088963056. 4

Question Number : 50 Question Id : 19088915791 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which type of forest has maximum area in India?

1. Tropical moist deciduous forest
2. Tropical wet evergreen forest
3. Tropical dry deciduous forest
4. Tropical semi evergreen forest

Options :

19088963057. 1

19088963058. 2

19088963059. 3

19088963060. 4

Question Number : 51 Question Id : 19088915792 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which is the form of total amount of water present in soil?

1. Chresard
2. Echard
3. Hollard
4. Morrard

Options :

- 19088963061. 1
- 19088963062. 2
- 19088963063. 3
- 19088963064. 4

Question Number : 52 Question Id : 19088915793 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In which of the following system “Double digging” method is used?

- 1. Bio-intensive agriculture
- 2. Deforestation
- 3. Afforestation
- 4. Water conservation

Options :

- 19088963065. 1
- 19088963066. 2
- 19088963067. 3
- 19088963068. 4

Question Number : 53 Question Id : 19088915794 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is permissible sound level at day time in commercial areas (dBA)?

- 1. 75
- 2. 65
- 3. 55
- 4. 50

Options :

- 19088963069. 1
- 19088963070. 2
- 19088963071. 3

19088963072. 4

Question Number : 54 Question Id : 19088915795 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which is an absorbing solution used for the sampling of SO₂ from ambient air in the respirable dust sampler (RDS)?

1. Sodium hydroxide and sodium arsenite
2. Potassium tetrachloro mercurate (TCM)
3. 1% KI in 0.1 M Phosphate buffer
4. 0.1N Sulphuric acid

Options :

19088963073. 1

19088963074. 2

19088963075. 3

19088963076. 4

Question Number : 55 Question Id : 19088915796 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which is the dominant source of NO_x in the atmosphere?

1. Thermal NO_x
2. Fuel NO_x
3. Atmospheric reactions
4. Photochemical smog

Options :

19088963077. 1

19088963078. 2

19088963079. 3

19088963080. 4

Question Number : 56 Question Id : 19088915797 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If the organic carbon content of a soil profile with a depth of 125 cm is 0.2%, the SOC stock density of the profile will be (assume bulk density = 1.5 Mg m^{-3})

1. 250 t ha^{-1}
2. 25 t km^{-2}
3. 37.5 t km^{-2}
4. 37.5 t ha^{-1}

Options :

19088963081. 1

19088963082. 2

19088963083. 3

19088963084. 4

Question Number : 57 Question Id : 19088915798 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Flux of water through a saturated soil column depends on

1. Hydraulic conductivity of soil column only
2. Hydraulic gradient of the soil column only
3. Amount of water supplied to the soil column only
4. Both hydraulic conductivity and hydraulic gradient of soil column

Options :

19088963085. 1

19088963086. 2

19088963087. 3

19088963088. 4

Question Number : 58 Question Id : 19088915799 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If wind speed increases by three times, the erosive energy of the wind regime will be increased by a factor of

1. One
2. Three
3. Six
4. Nine

Options :

19088963089. 1

19088963090. 2

19088963091. 3

19088963092. 4

Question Number : 59 Question Id : 19088915800 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If the size of a nanoparticle is decreased by two times, the surface-to-volume ratio of the nanoparticle will

1. Increase by two times
2. Remain the same
3. Decrease by two times
4. Increase by eight times

Options :

19088963093. 1

19088963094. 2

19088963095. 3

19088963096. 4

Question Number : 60 Question Id : 19088915801 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When a monochromatic light of a characteristic wavelength is passed through a medium, the absorbance of the light by the medium depends on

1. Concentration of the medium only
2. Path length of the medium only
3. Both on path length and concentration of the medium
4. Intensity and wavelength of the light

Options :

19088963097. 1

19088963098. 2

19088963099. 3

19088963100. 4

**Question Number : 61 Question Id : 19088915802 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

In soil structural evaluation study, it is often said 'Aggregation is flocculation **plus**'. This '**plus**' refers to:

1. settling
2. arrangement
3. sedimentation
4. cementation

Options :

19088963101. 1

19088963102. 2

19088963103. 3

19088963104. 4

**Question Number : 62 Question Id : 19088915803 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Which of the following statements about forms of precipitation are true?

- A. Drizzle is fairly uniform precipitation composed exclusively of fine drops
- B. In drizzle, drops must be very close together
- C. Drops larger than drizzle form rain
- D. Small drops can also form rain when drops are widely apart

Choose the *correct* answer from the options given below:

- 1. A and B only
- 2. A and C only
- 3. A, B and C only
- 4. A, B, C and D only

Options :

19088963105. 1

19088963106. 2

19088963107. 3

19088963108. 4

**Question Number : 63 Question Id : 19088915804 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Isotopes of an atom do NOT have

- 1. the same number of electrons
- 2. the same number of protons
- 3. the same number of neutrons
- 4. the same total number of electrons & protons

Options :

19088963109. 1

19088963110. 2

19088963111. 3

19088963112. 4

Question Number : 64 Question Id : 19088915805 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

SI unit of Energy is Joule. If the dimensions of mass, length and time are M, L and T, respectively, then dimension of Energy is

1. $M^1L^1T^{-2}$
2. $M^2L^2T^{-2}$
3. $M^2L^2T^{-1}$
4. $M^1L^2T^{-2}$

Options :

19088963113. 1

19088963114. 2

19088963115. 3

19088963116. 4

Question Number : 65 Question Id : 19088915806 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the atmosphere layer where most of weather phenomena occurs?

1. Stratosphere
2. Mesosphere
3. Ozonosphere
4. Troposphere

Options :

19088963117. 1

19088963118. 2

19088963119. 3

19088963120. 4

Question Number : 66 Question Id : 19088915807 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following models simulates soil water flow processes?

1. SWAT
2. HYDRUS
3. MIKE SHE
4. CROPWAT

Options :

19088963121. 1

19088963122. 2

19088963123. 3

19088963124. 4

**Question Number : 67 Question Id : 19088915808 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

For a soil being compacted, which of the following statement/statements are true?

- A. Bulk density of the soil increases
- B. Macropore volume of the soil decreases
- C. Micropore volume decreases
- D. Mesopore volume of soil increases

Choose the *correct* answer from the options given below:

1. A only
2. A, B and C only
3. A, B and D only
4. B only

Options :

19088963125. 1

19088963126. 2

19088963127. 3

19088963128. 4

Question Number : 68 Question Id : 19088915809 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Map coordinate system is the result of projection of geographic coordinate system

Reason R : Projection is a mathematical transformation of three-dimensional Earth into two-dimensional flat surface (paper)

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is Not the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963129. 1

19088963130. 2

19088963131. 3

19088963132. 4

Question Number : 69 Question Id : 19088915810 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Physical parameter)	(SI Unit)
A. Work	I. Megagram per cubic meter
B. Momentum	II. Meter
C. Density	III. Joule
D. Wavelength	IV. kg.m/s

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - IV, B - I, C - II, D - III
3. A - III, B - IV, C - I, D - II
4. A - I, B - II, C - III, D - IV

Options :

- 19088963133. 1
- 19088963134. 2
- 19088963135. 3
- 19088963136. 4

Question Number : 70 Question Id : 19088915811 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is the India’s first satellite launched in space?

- 1. Rohini
- 2. Kalpana
- 3. INSAT
- 4. Aryabhata

Options :

- 19088963137. 1
- 19088963138. 2
- 19088963139. 3
- 19088963140. 4

Part C : Agricultural Physics

Section Id :	190889337
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Enable Mark as Answered Mark for Review and	Yes
Clear Response :	

Sub-Section Number : 1
Sub-Section Id : 190889377
Question Shuffling Allowed : Yes

Question Number : 71 Question Id : 19088915812 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Two masses of 2 g and 8 g are moving with equal kinetic energies. The ratio of the magnitudes of their linear momenta is

1. 1:16
2. 1:4
3. 1:2
4. 1:1

Options :

19088963141. 1
19088963142. 2
19088963143. 3
19088963144. 4

Question Number : 72 Question Id : 19088915813 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In radioactive decay, the emission of gamma-rays is preceded by the emission of

1. α -rays only
2. β -rays only
3. both α and β rays
4. either α or β rays

Options :

19088963145. 1
19088963146. 2
19088963147. 3
19088963148. 4

Question Number : 73 Question Id : 19088915814 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : When a bottle of cold carbonated drink is opened, a slight fog forms around the opening

Reason R : Adiabatic expansion of a gas causes lowering of the temperature and condensation of water vapours

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963149. 1

19088963150. 2

19088963151. 3

19088963152. 4

Question Number : 74 Question Id : 19088915815 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
Instruments	Detection/Measurement
A. NMR Spectrometer	I. Detection and measurement of ^{18}O isotope
B. X-ray diffraction apparatus	II. Measurement of activity of ^{32}P isotope
C. Mass spectrometer	III. Determination of seed oil content
D. Geiger-Muller Counter	IV. Determining structure of common salt

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - III, D - IV
2. A - IV, B - III, C - II, D - I
3. A - III, B - I, C - IV, D - II
4. A - III, B - IV, C - I, D - II

Options :

19088963153. 1

19088963154. 2

19088963155. 3

19088963156. 4

Question Number : 75 Question Id : 19088915816 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
Statement	Laws
A. A force applied to a body can change the magnitude of the momentum, or its direction, or both	I. Pascal's law
B. Energy cannot be created or destroyed in an isolated system	II. Stefan-Boltzmann law
C. Pressure change in one part of a fluid in closed container is transmitted without loss to every portion of the fluid and to the walls of the container.	III. Newton's law
D. Total energy radiated from a black body is equal to the fourth power of its absolute temperature	IV. Law of Thermodynamics
	V. Wien's law

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - III, D - IV
2. A - II, B - III, C - IV, D - I
3. A - II, B - V, C - I, D - IV
4. A - III, B - IV, C - I, D - II

Options :

19088963157. 1

19088963158. 2

19088963159. 3

19088963160. 4

Question Number : 76 Question Id : 19088915817 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Oil and water both are colourless, but oil floating on water shows vibrant colours. This happens due to the physical process of

1. Dispersion of light waves
2. Diffraction of light waves
3. Interference of light waves
4. Polarization of light waves

Options :

19088963161. 1

19088963162. 2

19088963163. 3

19088963164. 4

Question Number : 77 Question Id : 19088915818 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A capillary tube with an internal radius $r = 0.25$ mm is dipped into water of surface tension 0.073 N/m. How high will the water rise in the tube if the contact angle $\alpha = 0^\circ$?

1. 25.0 mm
2. 75.0 mm
3. 60.0 mm
4. 42.6 mm

Options :

19088963165. 1

19088963166. 2

19088963167. 3

19088963168. 4

Question Number : 78 Question Id : 19088915819 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : In coarse sand and gravels, Darcy's law may not be applicable

Reason R : Hydraulic gradient in coarse sands and gravels is much in excess of unity causing nonlaminar flow

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963169. 1

19088963170. 2

19088963171. 3

19088963172. 4

Question Number : 79 Question Id : 19088915820 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are correct?

A. For evaporation to occur, there must be a continuous supply of heat to meet the latent heat requirement

B. For evaporation to occur, the vapour pressure in the atmosphere over the evaporating body must remain higher than the vapour pressure close to the surface of that body

C. For evaporation to sustain, there must be a continuous supply of water from or through the interior of the body to the site of evaporation

Choose the *correct* answer from the options given below:

1. A, B and C only

2. A and B only

3. A and C only

4. B and C only

Options :

19088963173. 1

19088963174. 2

19088963175. 3

19088963176. 4

Question Number : 80 Question Id : 19088915821 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

During dry spells, without rain or irrigation, the field scale water balance equation in an agricultural field can be expressed as -

(Where, ΔS = change in soil moisture storage, ΔV = change in vegetation moisture, D = deep drainage, E = Evaporation, ET = Evapotranspiration, R = Rainfall, and I = Irrigation)

1. $-\Delta S = D + ET$
2. $-\Delta S = D + E$
3. $-(\Delta S + \Delta V) = D + ET$
4. $\Delta S + \Delta V = (R+I)-(D+R+ET)$

Options :

19088963177. 1

19088963178. 2

19088963179. 3

19088963180. 4

Question Number : 81 Question Id : 19088915822 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Respiratory quotient (RQ) of soil is defined as the ratio of the volume of oxygen consumed to the volume of carbon dioxide produced

Statement II: The value of respiratory quotient (RQ) is close to unity for a well aerated soil

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088963181. 1

19088963182. 2

19088963183. 3

19088963184. 4

Question Number : 82 Question Id : 19088915823 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Residue mulching helps to improve water use efficiency

Reason R : Mulching material reduces energy supply through solar irradiation at soil surface and thus reduces evaporation of soil water

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963185. 1

19088963186. 2

19088963187. 3

19088963188. 4

Question Number : 83 Question Id : 19088915824 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Soil properties)	(Unit)
A. Surface tension	I. Meter per hour
B. Viscosity	II. Kilogram per cubic meter
C. Soil permeability	III. Newton per meter
D. Particle density	IV. Pascal
E. Soil water potential	V. Pascal-second

Choose the **correct** answer from the options given below:

1. A - V, B - III, C - IV, D - I, E - II
2. A - IV, B - V, C - II, D - III, E - I
3. A - III, B - V, C - I, D - II, E - IV
4. A - II, B - I, C - IV, D - III, E - V

Options :

19088963189. 1

19088963190. 2

19088963191. 3

19088963192. 4

Question Number : 84 Question Id : 19088915825 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A 0-50 cm soil has soil water content of 15% by weight. Compute the irrigation water required to bring the soil to field capacity water content of 30% by weight. (Assume the average bulk density of soil as 1.5 g cm^{-3})

1. 112.5 mm
2. 112.5 cm
3. 225.0 mm
4. 2.25 cm

Options :

19088963193. 1

19088963194. 2

19088963195. 3

19088963196. 4

Question Number : 85 Question Id : 19088915826 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Under extremely arid condition, the value of Bowen ratio may tend to infinity and can also become negative

Reason R : Bowen ratio is defined as the ratio of ground heat flux and latent heat flux

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963197. 1

19088963198. 2

19088963199. 3

19088963200. 4

Question Number : 86 Question Id : 19088915827 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The radiation amount of $1 \text{ MJm}^{-2}\text{d}^{-1}$ is equivalent to evaporation amount of

1. 28.4 mm d^{-1}
2. 2.45 mm d^{-1}
3. 0.035 mm d^{-1}
4. 0.408 mm d^{-1}

Options :

19088963201. 1

19088963202. 2

19088963203. 3

19088963204. 4

Question Number : 87 Question Id : 19088915828 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are statements regarding surface properties and their interaction with incident radiation

A. Mirror is an opaque object as it reflects nearly all incident light, absorbs little, and transmits none

B. Dark objects are warmer than white objects as they absorb more radiation

C. In the case of diffuse reflection over a rough surface, laws of reflection are not applicable

D. An object is translucent when some visible light is transmitted, but some is scattered (or diffused)

Choose the *correct* answer from the options given below:

1. A, B and D only
2. A and B only
3. A, B and C only
4. B only

Options :

19088963205. 1

19088963206. 2

19088963207. 3

19088963208. 4

Question Number : 88 Question Id : 19088915829 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The law explaining distribution of radiant energy over wavelength for a black body at fixed temperature is referred to as

1. Kirchhoff's law
2. Planck's law
3. Wein's law
4. Lambert's law

Options :

19088963209. 1

19088963210. 2

19088963211. 3

19088963212. 4

Question Number : 89 Question Id : 19088915830 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Electromagnetic radiation)	(Wavelength)
A. Visible	I. 1 mm – 1 m
B. Near Infrared	II. 10 cm – 1 km
C. Thermal infrared	III. 3-100 μm
D. Microwave	IV. 0.4-0.7 μm
E. Radiowave	V. 0.7-1.5 μm

Choose the **correct** answer from the options given below:

1. A - V, B - III, C - IV, D -I, E - II
2. A - IV, B - V, C - II, D - III, E - I
3. A - IV, B - V, C - III, D - I, E - II
4. A - II, B - I, C - IV, D - III, E - V

Options :

19088963213. 1

19088963214. 2

19088963215. 3

19088963216. 4

Question Number : 90 Question Id : 19088915831 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the number of H^+ and OH^- ions present in 100 ml of a solution with a pH value of 5.0 (25 °C)

1. $6.023 \times 10^{23} H^+$ ions and $6.023 \times 10^{18} OH^-$ ions
2. $6.023 \times 10^{17} H^+$ ions and $6.023 \times 10^{13} OH^-$ ions
3. 10^{-6} moles of H^+ ions and $10^{-10} OH^-$ ions
4. 5.55 moles of H^+ ions and 5.55 moles of OH^- ions

Options :

19088963217. 1

19088963218. 2

19088963219. 3

19088963220. 4

Question Number : 91 Question Id : 19088915832 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are statements regarding diffusion process:

- A. In the diffusion process, molecules move from a region of lower concentration to a region of higher concentration
- B. Fick's law states that rate of diffusion is directly proportional to concentration gradient and diffusion coefficient
- C. Diffusion coefficient is directly proportional to temperature and inversely proportional to frictional coefficient

Choose the *correct* answer from the options given below:

1. A, B and C only
2. A and B only
3. A and C only
4. B and C only

Options :

19088963221. 1

19088963222. 2

19088963223. 3

19088963224. 4

Question Number : 92 Question Id : 19088915833 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : In the process of osmosis, equilibrium between two solutions separated by a physical barrier is obtained by movement of solvent through the physical barrier from the solution of low concentration to the solution of high concentration

Reason R : Physical barrier in the osmosis process is actually a semipermeable membrane, which allows solvent but not the solute to move across the membrane.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963225. 1

19088963226. 2

19088963227. 3

19088963228. 4

Question Number : 93 Question Id : 19088915834 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Dynamic viscosity of water exceeds that of air by a factor of 50 (at room temperature), whereas kinematic viscosity of water is actually lower than that of air

Statement II: Fluids of lower viscosity flow more readily and are said to possess greater fluidity

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088963229. 1

19088963230. 2

19088963231. 3

19088963232. 4

Question Number : 94 Question Id : 19088915835 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Nanoparticles of phosphorus may be biologically synthesized from -

1. *Azadirachta indica*
2. *Bacillus megaterium* JCT 13
3. *Aspergillus oryzae* TFR- 9
4. *Desmodium triflorum*

Options :

19088963233. 1

19088963234. 2

19088963235. 3

19088963236. 4

Question Number : 95 Question Id : 19088915836 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Nano products)	(Function/utility)
A. Carbon nanotubes	I. Light-weight materials
B. Nanocellulose	II. For machinery and tracing
C. Nanochips	III. Seed germination
D. Nanosensor	IV. Detection of nutrients and contaminants

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - IV, B - I, C - II, D - III
3. A - III, B - I, C - II, D - IV
4. A - II, B - I, C - IV, D - III

Options :

19088963237. 1

19088963238. 2

19088963239. 3

19088963240. 4

Question Number : 96 Question Id : 19088915837 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Remote sensing offers a great opportunity in monitoring and managing natural resources

Reason R: Remote sensing is more reliable compared to field surveys and *in-situ* monitoring

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

- 19088963241. 1
- 19088963242. 2
- 19088963243. 3
- 19088963244. 4

Question Number : 97 Question Id : 19088915838 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange chronologically from past to recent the following important milestones about Indian Space programmes:

- A. Bhaskara-I, an experimental satellite built in India for earth observations, launched
- B. First Indian Satellite, Aryabhata, launched
- C. The first Indian sounding rocket launched
- D. Indian Remote Sensing Satellite IRS-1A was launched
- E. Communication Satellite INSAT-1A was launched

Choose the *correct* answer from the options given below:

- 1. A, C, B, E, D
- 2. C, B, E, A, D
- 3. C, B, A, E, D
- 4. B, C, A, E, D

Options :

- 19088963245. 1
- 19088963246. 2
- 19088963247. 3
- 19088963248. 4

Question Number : 98 Question Id : 19088915839 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are TRUE for a black body?

- A. Black body is an object that absorbs all of the radiation that it receives
- B. It is heated up by the radiant energy and then emits all of it
- C. The energy emitted by a black body over all wavelengths is given by Stefan-Boltzmann Law
- D. There is no object called an ideal black body

Choose the *correct* answer from the options given below:

- 1. A, B and C only
- 2. A and C only
- 3. B and C only
- 4. A, B, C and D

Options :

19088963249. 1

19088963250. 2

19088963251. 3

19088963252. 4

Question Number : 99 Question Id : 19088915840 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is a geostationary satellite?

- 1. CARTOSAT
- 2. QuickBird
- 3. LANDSAT
- 4. METEOSAT

Options :

19088963253. 1

19088963254. 2

19088963255. 3

19088963256. 4

Question Number : 100 Question Id : 19088915841 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Organisation)	(Location)
A. National Atlas and Thematic Mapping Organization (NATMO)	I. Hyderabad
B. Indian Space Research Organization (ISRO)	II. New Delhi
C. National Remote Sensing Centre (NRSC)	III. Kolkata
D. Department of Science and Technology (DST)	IV. Bangalore

Choose the **correct** answer from the options given below:

1. A - III, B - IV, C - I, D - II
2. A - IV, B - I, C - III, D - II
3. A - III, B - IV, C - II, D - I
4. A - II, B - I, C - IV, D - III

Options :

19088963257. 1

19088963258. 2

19088963259. 3

19088963260. 4

Question Number : 101 Question Id : 19088915842 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is a characteristic of satellites in polar sun synchronous orbit?

1. The height of orbit from earth surface is about 1000-1500 km
2. The satellite visits the same spot on the earth surface at the same local time
3. The satellite rotates from west to east
4. The apparent position of satellites in the sky is fixed with respect to any earth location at all times

Options :

19088963261. 1

19088963262. 2

19088963263. 3

19088963264. 4

Question Number : 102 Question Id : 19088915843 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Satellite images)	(Spatial resolution)
A. MODIS (VIS-NIR-SWIR)	I. 10 m
B. Sentinel 2 (VNIR)	II. 5.8 m
C. Landsat 8 OLI (VIS-NIR-SWIR)	III. 30 m
D. LISS-IV	IV. 500 m

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - IV, B - I, C - III, D - II
3. A - III, B - IV, C - II, D - I
4. A - II, B - I, C - IV, D - III

Options :

19088963265. 1

19088963266. 2

19088963267. 3

19088963268. 4

Question Number : 103 Question Id : 19088915844 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

‘Spatial data’ in GIS refers to

1. Numeric values
2. Boolean values
3. Graphical values
4. Positional values

Options :

19088963269. 1

19088963270. 2

19088963271. 3

19088963272. 4

Question Number : 104 Question Id : 19088915845 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Spatial interpolation uses points with known values to estimate values at other unknown points

Reason R : Locations that are closer are more likely to have similar values than locations that are far

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963273. 1

19088963274. 2

19088963275. 3

19088963276. 4

Question Number : 105 Question Id : 19088915846 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Following statements are given about database in GIS environment

- A. Each table in a relational database is a collection of 'tuples' (or records)
- B. Each table is identified by a unique key called 'primary' key
- C. Relational database ensures complete data redundancy
- D. Relational database often fails to accommodate complex numbers, graphics and multimedia

Choose the *correct* answer from the options given below:

- 1. A, B and D only
- 2. A and B only
- 3. A and C only
- 4. B and C only

Options :

19088963277. 1

19088963278. 2

19088963279. 3

19088963280. 4

**Question Number : 106 Question Id : 19088915847 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Which of the following is NOT an extension of a filename for an image?

- 1. JPEG
- 2. TIFF
- 3. IMG
- 4. MDB

Options :

19088963281. 1

19088963282. 2

19088963283. 3

19088963284. 4

Question Number : 107 Question Id : 19088915848 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Name of the Indian Navigation Satellite System is -

1. GAGAN
2. NavIC
3. Bhuvan
4. AstroSat

Options :

19088963285. 1

19088963286. 2

19088963287. 3

19088963288. 4

Question Number : 108 Question Id : 19088915849 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Full form of GPS is

1. Geographical Projection System
2. Global Projection System
3. Global Positioning Satellite
4. Global Positioning System

Options :

19088963289. 1

19088963290. 2

19088963291. 3

19088963292. 4

Question Number : 109 Question Id : 19088915850 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which factors determine the amount of radiation penetration, radiation trapping and mutual shading within the plant canopy?

- A. Solar altitude angle
- B. Canopy architecture
- C. Average albedo of individual leaves
- D. Wind velocity

Choose the *correct* answer from the options given below:

- 1. A and D only
- 2. A and B only
- 3. B and D only
- 4. B and C only

Options :

19088963293. 1

19088963294. 2

19088963295. 3

19088963296. 4

Question Number : 110 Question Id : 19088915851 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which statements are true for 'eye' of a cyclone?

- A. The eye has a diameter of about 10 to 50 km
- B. The eye is generally cloudy and surrounded by thin wall clouds around it
- C. It resembles an 'eye' when viewed in a satellite picture
- D. 'Eye' forms at the centre of the storm outside a Central Dense Overcast (CDO) region

Choose the correct answer from the options given below:

- 1. A and B only
- 2. A and C only
- 3. B and D only
- 4. B and C only

Options :

19088963297. 1

19088963298. 2

19088963299. 3

19088963300. 4

Question Number : 111 Question Id : 19088915852 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are true?

- A. The Agromet Advisory Bulletin is being prepared biweekly for farmers
- B. Gramin Krishi Mausam Sewa (GKMS) project prepares Agromet Advisory bulletin based on medium-range weather forecasting
- C. The funding agency of GKMS project is the Ministry of Agriculture & Farmers Welfare
- D. Agromet Farm Units (AFUs) prepare Agromet Advisory Bulletin for farmers

Choose the *correct* answer from the options given below:

- 1. A and D only
- 2. A and B only
- 3. B and D only
- 4. B and C only

Options :

19088963301. 1

19088963302. 2

19088963303. 3

19088963304. 4

Question Number : 112 Question Id : 19088915853 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which country has given the name of severe cyclone "Tauktae" which hit Gujarat coast in May, 2021?

- 1. Myanmar
- 2. Srilanka
- 3. Maldives
- 4. India

Options :

19088963305. 1

19088963306. 2

19088963307. 3

19088963308. 4

Question Number : 113 Question Id : 19088915854 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which statements are correct for the 'yield response factor' (K_y)?

- A. K_y values are not crop specific and vary over the growing season.
- B. At $K_y > 1$, crop is very sensitive to water deficit with proportionally greater yield loss with increase in deficit.
- C. At $K_y < 1$: crop shows tolerance to water deficit, and recovers partially from stress, exhibiting less than proportional reductions in yield with reduced water use.
- D. At $K_y = 1$, yield reduction is inversely proportional to reduced water use.

Choose the correct answer from the options given below:

- 1. A and D only
- 2. A and B only
- 3. B and D only
- 4. B and C only

Options :

19088963309. 1

19088963310. 2

19088963311. 3

19088963312. 4

Question Number : 114 Question Id : 19088915855 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the height of a hypothetical reference crop used to define reference surface by FAO?

- 1. 0.12 m
- 2. 0.52 m
- 3. 0.72 m
- 4. 0.92 m

Options :

19088963313. 1

19088963314. 2

19088963315. 3

19088963316. 4

**Question Number : 115 Question Id : 19088915856 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
(Clouds)	(Phenomena/ characteristics)
A. Cirrocumulus	I. Produce halo
B. Cirrostratus	II. Castellanus
C. Altostratus	III. Mackerel sky
D. Altocumulus	IV. Watery sun

Choose the **correct** answer from the options given below:

1. A - I, B - IV, C - II, D - III
2. A - II, B - I, C - IV, D - III
3. A - III, B - I, C - IV, D - II
4. A - II, B - IV, C - I, D - III

Options :

19088963317. 1

19088963318. 2

19088963319. 3

19088963320. 4

**Question Number : 116 Question Id : 19088915857 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : In validation of a simulation model, experimental data generated under stressed and non-stressed conditions should be used

Reason R : Genetic coefficients are adjusted to match attainable yields under a given environment

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088963321. 1

19088963322. 2

19088963323. 3

19088963324. 4

Question Number : 117 Question Id : 19088915858 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
(Models)	(Used for)
A. Weather Research Forecasting (WRF) model	I. Yield Forecasting
B. Global Forecast System (GFS – T 1534) Model	II. Short Range Forecasting
C. Climate Forecast System (CFS) Model	III. Medium Range Forecasting
D. DSSAT Model	IV. Long Range Forecasting

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - I, B - II, C - IV, D - III
3. A - III, B - I, C - IV, D - II
4. A - II, B - IV, C - I, D - III

Options :

19088963325. 1

19088963326. 2

19088963327. 3

19088963328. 4

Question Number : 118 Question Id : 19088915859 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Soil pH at two very close sample points at the same location may not have same values, which is known as

1. Autocorrelation
2. Correlation
3. Chance
4. Randomness

Options :

19088963329. 1

19088963330. 2

19088963331. 3

19088963332. 4

Question Number : 119 Question Id : 19088915860 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If $f(x) = x^{\pi}$, $f'(1)$ is

1. $22/7$
2. $7/22$
3. $(22/7) * x^{15/7}$
4. $(7/22) * x^{15/7}$

Options :

19088963333. 1

19088963334. 2

19088963335. 3

19088963336. 4

Question Number : 120 Question Id : 19088915861 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When the correlation coefficient, r , is close to one, then

1. there is no relationship between the two variables
2. there is a strong linear relationship between the two variables
3. the ratio of the magnitude of two variables is always 1
4. the slope of the regression line will be close to one

Options :

19088963337. 1

19088963338. 2

19088963339. 3

19088963340. 4