

# Shri sant damaji mahavidyalay Manglwedha

Department of physics.

Unit test -1

Paper -1

Teacher in charge

Prof miss. More. S. R

\*Required

1. Email \*

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2. Name of student \*

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3. Roll number \*

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4. Moment of inertia of a spherical shell about it's tangent is... \*

1 point

*Mark only one oval.*

$\frac{2}{3}MR^2$

$\frac{7}{5}MR^2$

$\frac{5}{3}R^2$

$MR^2$

5. Moment of inertia of a circular disc about its diameter is... \*

*Mark only one oval.*

- $MR^2/2$
- $MR^2/4$
- $MR^2$
- $MR^2/3$

6. Moment of inertia in rotational motion is analogous to the... In translational motion \*

1 point

*Mark only one oval.*

- Momentum
- Force
- Mass
- Acceleration

7. Viscosity of a liquid increases with... In pressure on the liquid \*

1 point

*Mark only one oval.*

- Increases
- Decrease
- No change
- None of these

8. Bernoullis equation deals with the law of conservation of.... \*

1 point

*Mark only one oval.*

- Mass
- Momentum
- Energy
- Work

9. Velocity of the flow... With the area of cross section \*

1 point

*Mark only one oval.*

- Varies inversely
- Varies directly
- Does not change
- Become twice

10. The profile of advancing liquid in the capillary tube is a.... \*

1 point

*Mark only one oval.*

- Ellipse
- Circle
- Parabola
- Hyperbola

11. The ratio of shearing stress to shearing strain is called.... \*

1 point

*Mark only one oval.*

- Young's modulus
- Bulk modulus
- Modulus of rigidity
- Poisson ratio

12. ....Indicates the resistance of elastic solid to elongation \*

*Mark only one oval.*

- Bulk modulus
- Elastic limit
- Young's modulus
- Modulus of rigidity

13. Compression strain is equivalent to.... \*

1 point

*Mark only one oval.*

- Shear strain
- Half the shear strain
- Double the shear strain
- Square root of shear strain

14. The angular acceleration of a compound pendulum is directly proportional to its.... \*

1 point

*Mark only one oval.*

- Linear displacement
- Mass
- Angular displacement
- Velocity

15. The length of an equivalent simple pendulum is also called as... Of the compound pendulum \*

1 point

*Mark only one oval.*

- Equal length
- Reduced length
- Extended length
- Suspension length

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B.Sc.I. Semester I Paper I  
Microbiology and Phytology.

# Shri. Sant Damaji College, Mangalwedha

Botany paper 1

Asst.Prof. Vaidya V.V.

\* Required

1. Email \*

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2. Name \*

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3. Roll no. \*

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4. \_\_\_\_\_ is the branch of biology which deals with study of microscopic forms of life having size less than 0.1mm \* 1 point

*Mark only one oval.*

Phycology

Mycology

Microbiology

Phytology

5. Industrial microbiology deals with \_\_\_\_\_ of microorganism \*

1 point

*Mark only one oval.*

- Industrial application
- Genetic industrial
- Inhabiting biota in soil
- None of above

6. Virus is \_\_\_\_\_ entity which is able to utilize the synthetic machinery of living cell \*

1 point

*Mark only one oval.*

- Lipoprotein
- Nucleoprotein
- Carbolipid
- Polysaccharide

7. Autotrophic bacteria possess \_\_\_\_\_ for photosynthesis \*

1 point

*Mark only one oval.*

- Chloroplast
- Pyrenoid
- Heterocyst
- Bacteriochlorophyll

8. \_\_\_\_\_ is extra chromosomal DNA in bacteria helpful in conjugation. \*

1 point

*Mark only one oval.*

- Nucleoid
- Plasmid
- Ribosome
- Microsome

- 1 point
9. \_\_\_\_\_ are superficial appendages helpful in attachment of bacteria during conjugation \* 1 point

*Mark only one oval.*

- Flagella
- Capsule
- Cell wall
- Pili
- Other: \_\_\_\_\_

10. \_\_\_\_\_ is the only prokaryotic algae that has close relationship with bacteria. \* 1 point

*Mark only one oval.*

- Chlorophyta
- Pheophyta
- Cyanophyta
- None of the above

11. \_\_\_\_\_ is modified type of cell for nitrogen fixation \* 1 point

*Mark only one oval.*

- Peptidoglycan
- Heterocyst
- Hormogonia
- None of the above
- Other: \_\_\_\_\_



12. \_\_\_\_\_ contain phycoerythrin and phycoerythrin along with chlorophyll and carotenoid \* 1 point

*Mark only one oval.*

- Pheophyta  
 Chlorophyta  
 Rhodophyta  
 Cyanophyta

13. \_\_\_\_\_ is the proteinaceous rounded structure specialized for storage of food material in green algae. \* 1 point

*Mark only one oval.*

- Pyrenoids  
 Vacuole  
 Cytoplasmic strand  
 Chlorophyll  
 Other: \_\_\_\_\_

14. Sexual reproduction in chlorophyta ranges from isogamy to \_\_\_\_\_ \* 1 point

*Mark only one oval.*

- Anisogamy  
 Oogamy  
 Progamy  
 None of the above

15. Stored food material in chlorophyta is in the form of \_\_\_\_\_ \*

1 point

Mark only one oval.

Cellulose

Glucose

Starch

Sucrose

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**SHRI. SANT DAMAJI MAHAVIDYALAYA, MANGALWEDHA.**

**BOTANY I SEMESTER I** Paper II

**Write note on following**

1. Zygomycotina
2. Life cycle of *Selaginella*
3. Coralloid roots in *Cycas*
4. Archegonite
5. General characters of Bryophytes

# Shri Sant Damaji Mahavidyalaya, Mangalwedha

B.Sc-I (C.B.C.S.) Home assignment and Unit Test

Semester-I (2020-2021)

Department of Mathematics

Paper-I Algebra

Mr. M.N.Wankhade

(Teacher In-charge)

\* Required

1. Email \*

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2. Students full Name \*

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3. PRN No \*

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All questions are compulsory.

(Result will be declared with best of five)

Home Assignment

4. \*

A square matrix  $A = [a_{ij}]$  is symmetric iff .....

- (a)  $a_{ij} = a_{ji}$  for some  $i$  and  $j$       (b)  $a_{ij} = a_{ji}$  for all  $i$  and  $j$   
(c)  $a_{ij} = 0$  for  $i=j$       (d)  $a_{ij} = -a_{ji}$  for all  $i$  and  $j$

Mark only one oval.

a

b

c

d

5. \*

The eigen vector of  $\begin{bmatrix} -2 & -1 \\ 5 & 4 \end{bmatrix}$  is .....

(a)  $\begin{bmatrix} -1 \\ 1 \end{bmatrix}$

(b)  $\begin{bmatrix} -1 \\ 0 \end{bmatrix}$

(c)  $\begin{bmatrix} 0 \\ 1 \end{bmatrix}$

(d)  $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$

Mark only one oval.

a

b

c

d

6. \*

The characteristic equation of the matrix  $\begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix}$  is .....

(a)  $x^2 - 3x - 4 = 0$

(b)  $x^2 - 3x + 8 = 0$

(c)  $x^2 - 2x - 4 = 0$

(d)  $x^2 + 3x + 4 = 0$

Mark only one oval.

 a b c d

7. \*

If  $A = \begin{bmatrix} 2 & 1 \\ 2 & 3 \end{bmatrix}$ ,  $B = \begin{bmatrix} -3 & 1 \\ 2 & 0 \end{bmatrix}$  then  $AB$  is .....

(a)  $\begin{bmatrix} 4 & 2 \\ 0 & 2 \end{bmatrix}$

(b)  $\begin{bmatrix} -4 & 2 \\ 1 & 2 \end{bmatrix}$

(c)  $\begin{bmatrix} -4 & 2 \\ 0 & 2 \end{bmatrix}$

(d)  $\begin{bmatrix} 4 & 2 \\ 1 & 2 \end{bmatrix}$

Mark only one oval.

 a b c d

8. \*

The modulus and amplitude of  $1 + i$  are .....

(a)  $\sqrt{2}, \frac{\pi}{4}$

(b)  $1, \frac{\pi}{4}$

(c)  $2, \frac{\pi}{3}$

(d)  $\sqrt{2}, \frac{\pi}{3}$

Mark only one oval.

 a b c d

9. \*

$\sin^{-1}(z) = \dots\dots\dots$

(a)  $\log(z + \sqrt{z^2 + 1})$

(b)  $\log(z - \sqrt{z^2 + 1})$

(c)  $\log(z + \sqrt{z^2 - 1})$

(d)  $\log(z - \sqrt{z^2 - 1})$

Mark only one oval.

 a b c d

Internal Exam

All questions are compulsory.  
(Result will be declared with best of five)

10. \*

The eigen values of the matrix  $\begin{bmatrix} 2 & 5 & 1 \\ 0 & 3 & 4 \\ 0 & 0 & 2 \end{bmatrix}$  are .....

(a) 2, 3, 2      (b) 2, 5, 1      (c) 0, 3, 4      (d) 1, 4, 2

Mark only one oval.

- a
- b
- c
- d

11. \*

A square matrix  $A = [a_{ij}]$  is skew-symmetric iff .....

(a)  $a_{ij} = -a_{ji}$  for all  $i$  and  $j$       (b)  $a_{ij} = -a_{ji}$  for some  $i$  and  $j$

(c)  $a_{ij} = -a_{ji}$  for  $i \neq j$       (d)  $a_{ij} = a_{ji}$  for  $i \neq j$

Mark only one oval.

- a
- b
- c
- d



12. \*

## MULTIPLE CHOICE QUESTIONS

If  $f(x) = x^2 + 3x + 4$ , then  $f(A) = \dots\dots$

(a)  $A^2 + 3A + 4I$

(b)  $A^2 + 3A + 4$

(c)  $A^2 + 3A$

(d)  $(A+4)(A+I)$

Mark only one oval.

 a b c d

13. \*

General value of  $\tan^{-1} z = \dots\dots$

(a)  $n\pi + \tan^{-1} z$

(b)  $2n\pi + \tan^{-1} z$

(c)  $n\pi i + \tan^{-1} z$

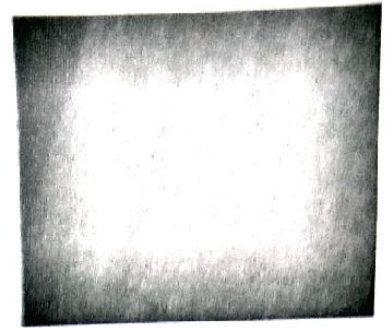
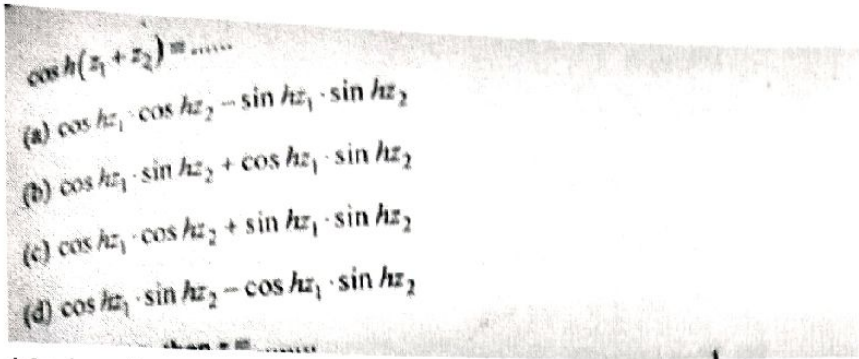
(d)  $n\pi + \tan z$

**POCO**  
SHOT ON POC

Mark only one oval.

 a b c d

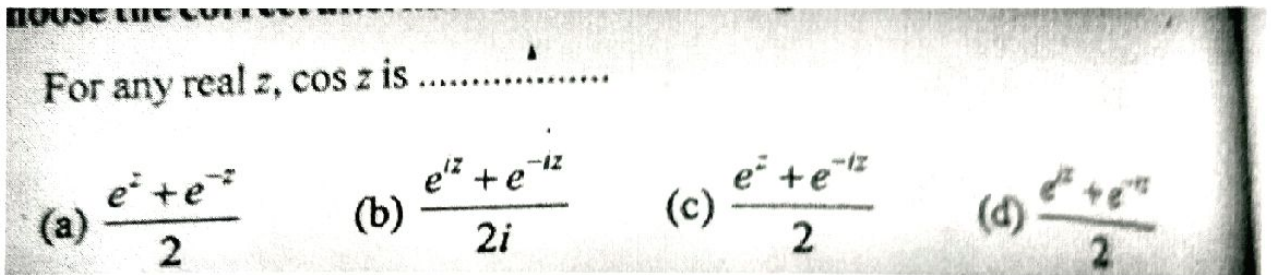
14. \*



Mark only one oval.

- a
- b
- c
- d

15. \*



Mark only one oval.

- a
- b
- c
- d

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# Shri Sant Damaji Mahavidyalaya, Mangalwedha.

B.Sc-I(CBCS)

Semester- I (2020-2021)

Department of Electronics  
Paper-I Basic Circuit Theory And Network  
Analysis  
Home assignment & Unit test

Mr. M.R. Hattali  
(Teacher In-charge)

\* Required

1. Email \*

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2. Student's Full Name (surname first) \*

---

3. Roll No. \*

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Home-assignment

All questions are compulsory.  
(Result will be declared with best of 5)

4. Capacitance is measured in ..... \*

*Mark only one oval.*

- Ohm
- Farad
- Henry
- Mho

5. Transformer works on ..... inductance principle \*

*Mark only one oval.*

- Self
- Mutual
- Both a & b
- None of these

6. In case of step down transformer,  $N_p$  is .....  $N_s$ . ( $N_p$  = no. of turns in primary coil,  $N_s$  = no. of turns in secondary coil) \*

*Mark only one oval.*

- More than
- Less than
- Equal to
- None of these

7. .... works as switch. \*

*Mark only one oval.*

- Resistor
- Capacitor
- Inductor
- Relay

8. A resistor has color code Yellow, Violet, Orange, Silver. It's nominal value is ..... \*

*Mark only one oval.*

- 47 K ohm, (+/-) 10%
- 47 K ohm, (+/-) 5%
- 49 K ohm, (+/-) 10%
- 49 K ohm, (+/-) 5%

9. Iron core inductors are suitable for ..... \*

*Mark only one oval.*

- Radio frequency applications
- Higher frequency applications
- Audio frequency applications
- All of these

Unit-test

All questions are compulsory.  
(Result will be declared with best of 5)

10. An oscilloscope shows 5 cycles of a sine wave occurring in 10 microsecond. The frequency is ..... \*

*Mark only one oval.*

- 0.5 MHz  
 5 MHz  
 5 KHz  
 5 Hz

11. An ideal current source is one which has ..... internal resistance (shunt) & whose terminal current remains constant irrespective of load resistance. \*

*Mark only one oval.*

- Zero  
 Finite  
 Infinite  
 None of these

12. For a pure resistive circuit, the voltage & current are ..... with each other. \*

*Mark only one oval.*

- In phase  
 Out of phase  
 Leading  
 Lagging

13. Channel 4 of TV receiver operates at a frequency of 69 MHz. What is time period. \*

*Mark only one oval.*

- 14.5 nanosecond
- 14.5 microsecond
- 14.5 millisecond
- None of these

14. Which of the following statement/s is/are correct a) A constant voltage source has low internal resistance. b) A constant current source has high internal resistance. c) An ideal voltage source has zero internal resistance d) An ideal current source has infinite internal resistance. \*

*Mark only one oval.*

- Only a
- Both a & b
- a,b & c
- All a, b, c & d

15. A sinusoidal AC circuit has peak value of 50 Amp then it's RMS value is ..... Amp \*

*Mark only one oval.*

- 78.61
- 35.35
- 70.72
- 100

13. Channel 4 of TV receiver operates at a frequency of 69 MHz. What is time period. \*

*Mark only one oval.*

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- 14.5 microsecond
- 14.5 millisecond
- None of these

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*Mark only one oval.*

- Only a
- Both a & b
- a,b & c
- All a, b, c & d

15. A sinusoidal AC circuit has peak value of 50 Amp then it's RMS value is ..... Amp \*

*Mark only one oval.*

- 78.61
- 35.35
- 70.72
- 100



# S.S.D.M MANGALWEDHA

Internal Examination & HA 2020/2021

Department of Chemistry

B. Sc I/ Paper II- Inorganic Chemistry

Teacher Incharge- Dr. Gavade

(Best of 10 will be Counted)

\* Required

1. Email \*

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2. Name of Student \*

---

3. Roll Number \*

---

Home Assignment

Best of 5 will be counted  
All Questions Compulsory

4. ....is most electropositive element in periodic table \*

*Mark only one oval.*

Oxygen

Carbon

Magnesium

Cesium

5. Principal quantum number describe the..... of electron. \*

*Mark only one oval.*

- Size and energy
- Orientation
- Spin
- All of these

6. Possible values of spin quantum number are ..... \*

*Mark only one oval.*

- 0 and 1
- 1 and 2
- +1/2 and -1/2
- +1/2 and 0

7. All the d orbitals have equal energy, therefore they are called as..... orbitals \*

*Mark only one oval.*

- Quantised
- Degenerate
- Symmetrical
- Coplaner

8. Magnetic quantum number (m) represent.....of electron \*

*Mark only one oval.*

- Energy
- Spin
- Orientation
- Shape

9. s-orbital has .....shape \*

*Mark only one oval.*

- Dumb-bell  
 Square  
 Spherical  
 Traingular

Unit Test

Best of 5 will be counted  
All questions are compulsory

10. Atomic number of an atom indicates..... \*

*Mark only one oval.*

- Quantum number  
 Number of neutron  
 Number of orbitals  
 Numbers of protons

11. ....is the most electronegative element in periodic table. \*

*Mark only one oval.*

- Chlorine  
 Iodine  
 Bromine  
 Flourine

12. Protons are .....charged particles. \*

*Mark only one oval.*

- Negatively  
 Neutral  
 Positively  
 All of these

13. Halogens have ..... Electron affinity \*

*Mark only one oval.*

- Low  
 Medium  
 High  
 Zero

14. In the  $p_x$  orbital, the probability of finding of electron is maximum among.....  
\*

*Mark only one oval.*

- X- axis  
 Y- axis  
 Z- axis  
 None of above

15. The ionic size of cation is .....its atom \*

*Mark only one oval.*

- Greater than  
 Equal to  
 Smaller than  
 None of these

# S.S.D.M Mangalwedha

Department of Chemistry

Internal exam B Sc I / Sem II 2020-21

HA+UT/ P-I+P-II

\* Required

1. Email \*

\_\_\_\_\_

2. Name of Student \*

\_\_\_\_\_

3. Roll number \*

\_\_\_\_\_

HA+UT

Best of 10 out of 12 counted for final result  
Each question carries 2 marks

4. The reciprocal of coefficient of viscosity is called..... \*

*Mark only one oval.*

- Viscosity
- Parachor
- Fluidity
- None of these

5. Due to surface tension, liquids tend to minimise their..... \*

*Mark only one oval.*

- Volume
- Surface area
- Both a and b
- None of above

6. Viscosity of liquid is determined by..... \*

*Mark only one oval.*

- Ostwald's Viscometer
- Stagalometer
- Drop-pipette
- All of above

7. It was shown by Sugden that ..... Is both additive and constitutive property \*

*Mark only one oval.*

- Parachor
- Dipole moment
- Both a and b
- None of above

8. The shape of liquid droplets is spherical due to ..... \*

*Mark only one oval.*

- Viscosity
- Dipole moment
- Surface tension
- None of these

9. The properties which are the sum of the corresponding properties of their constituents are called..... properties. \*

*Mark only one oval.*

- Additive  
 Constitutive  
 Colligative  
 None of these

10. Structure of benzene is ..... \*

*Mark only one oval.*

- Hexagonal  
 Pyramidal  
 Tetrahedral  
 Linear

11. Aromaticity is explained by the rule..... \*

*Mark only one oval.*

- Huckels rule  
 Hunds rule  
 Phase rule  
 None of thess

12. Benzene contains how many pia electrons \*

*Mark only one oval.*

- 3  
 0  
 6  
 12

13. All carbon atoms of benzene are ..... \*

*Mark only one oval.*

- Sp hybridised
- Sp<sup>2</sup> hybridised
- Sp<sup>3</sup> hybridised
- None of above

14. Which of the following is most stable compound ? \*

*Mark only one oval.*

- Cyclohexane
- Cyclohexadiene
- Benzene
- Cyclohexene

15. Nm<sup>-2</sup>.s is SI unit of ..... \*

*Mark only one oval.*

- Viscosity
- Surface tension
- Parachor
- Fluidity