



Answer Script Details

Seat No. : 318188
Total Marks : 16

Exam Series : BSc Examination - Winter - 2023
Subject Code / Name : 831401 - BOT-301 Plant Anatomy

Question-wise Marks Summary

<u>Q.No.</u>	<u>Marks</u>
1A_i	1
1A_ii	1
1A_iii	1
1A_iv	1
1A_v	1
1A_vi	1
1A_vii	1
1A_viii	1
1B_i	1
1B_ii	0
1B_iii	1
1B_iv	1
1B_v	0
1B_vi	00
1B_vii	00
1B_viii	0
2_i	0
2_ii	0
2_iii	0
2_iv	0
2_v	0
2_vi	0
2_vii	0
2_viii	0
2_ix	0
3_i	0
3_ii	1
3_iii	0
3_iv	0
3_v	0
3_vi	0
4_i	2
4_ii	0
4_iii	0
4_iv	0
4_v	0
5_i	0
5_ii	2
5_iii	2
Total	16

Note : Marks indicated in red colour are not considered for totaling.



Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
(Formerly North Maharashtra University, Jalgaon)

Seat No.

3 1 8 1 8 8

IMPORTANT INSTRUCTIONS : READ ALL THE INSTRUCTIONS CAREFULLY BEFORE FILLING THIS FORM
 ● This Sheet will be Scanned by Computer. ● Use only BLACK/BLUE BALLPEN for writing the Seat Number and answer. ● Do not fold the this sheet. ● Do not make any stray marks on the PART II & III. ● Do not use copy of this sheet. ● Write the answer from page no. 1 in BLACK/BLUE BALLPEN.

Smbhoye

Signature of Candidate

READ INSTRUCTION ON THE BACK SIDE

PART-I MAIN SLIP

STUDENT TO FILL THIS AREA FIRST

EXAMINATION 54 BSc sem III PAPER -
 SUBJECT Botany plant Anatomy SECTION -
 DATE 7-11-23 TIME 3:30 : 5:30



FOR OFFICE USE ONLY

Q.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTAL
Examiner																
Moderator																
Expert																

Signature & Appointment No. of :

Examiner

Moderator

Expert

Paste Sticker ONLY in the box

UID Number

This Space is for marking by Examiners. Student should not write anything

ही जागा परिक्षकांनी गुणदान करण्यासाठी आहे. विद्यार्थ्यांनी येथे काहीही लिहू नये.



PART-II MARKS SLIP

	Examiner		Moderator		Expert	
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9
0	0	0	0	0	0	0

If 100 Marks Darken the Circle



Paste Sticker ONLY in the box

UID Barcode

Sign only in this box

Examiner

Moderator

Expert

४३१४०१



READ INSTRUCTION ON THE BACK SIDE

PART-III CODE SLIP

STUDENT TO FILL THIS AREA FIRST

3 1 8 1 8 8

FILL YOUR SEAT NUMBER

1	1	●	1	●	1	1
2	2	2	2	2	2	2
3	●	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	●	8	●	8
9	9	9	9	9	9	9
0	0	0	0	0	0	0

EXAMINATION 54 BSc Sem III

1 3 0 0 2 1

CENTRE CODE

Bot-301 plant Anatomy.

SUBJECT

8 3 1 4 0 1

COMPUTER CODE

BANK 49

QP CODE



10641470



DATE 07 11 23

[Signature]
07-12-23

Invigilator's Signature and Date

Do not Cut on Stitching Cut only at perforation
फिरावणी वेर काहीही लिहू नये

Do not Cut on Stitching Cut only at perforation
फिरावणी वेर काहीही लिहू नये

परीक्षा दालनात पेपर लिहितांना विद्यार्थ्यांना विशेष सूचना

खाली दर्शविलेल्या नमुन्या प्रमाणे स्वतःचा सीट नंबर लिहून त्याप्रमाणे गोळे भरावे.

	1	2	3	4	5	6
	FILL YOUR SEAT NUMBER					
1	●	①	①	①	①	①
2	②	●	②	②	②	②
3	③	③	●	③	③	③
4	④	④	④	●	④	④
5	⑤	⑤	⑤	⑤	●	⑤
6	⑥	⑥	⑥	⑥	⑥	●
7	⑦	⑦	⑦	⑦	⑦	⑦
8	⑧	⑧	⑧	⑧	⑧	⑧
9	⑨	⑨	⑨	⑨	⑨	⑨
0	⑩	⑩	⑩	⑩	⑩	⑩

- पुरवणी उत्तरपत्रिका भिळणार नाही याची नोंद घ्यावी.
- उत्तरपत्रिका लिहिण्यासाठी काळ्या किंवा निळ्या बॉलपेनचा वापर करा. आकृती काढण्यासाठी उत्तरपत्रिका लिहिण्याकरिता वापरता जाणारा पेन अथवा काळी एच.बी. पेन्सिल वापरावी.
- उत्तरपत्रिकेची घडी घालू नये तसेच बारकोडवर काहीही लिहू नये. बैठक क्रमांकासाठी दिलेल्या जागेशिवाय अन्यत्र कोठेही बैठक क्रमांक लिहू नये.
- अ) कुठलेही ओळखचिन्ह (उदा. - x -, *, & इ.) किंवा नाव, मोबाईल नंबर, ई-मेल इ. उत्तरपत्रिकेत येणार नाही याची खबरदारी घ्यावी.
ब) काळ्या / निळ्या व्यतिरिक्त दुसऱ्या कोणत्याही रंगाच्या बॉलपेनचा वापर करू नये.
क) प्रश्नपत्रिकेवर अथवा टीप कागदावर काहीही लिहू नका.
ड) परीक्षेच्या ठिकाणी मोबाईल फोन आणू नये.
(अ) ते (ड) पैकी कुठल्याही बाबीचे उल्लंघन झाल्यास तो परीक्षा गैरप्रकार समजण्यात येईल, त्यासाठी विद्यार्थी अध्यादेश क्र. ९ नुसार शिक्षा होऊ शकते.
- लिहिलेला मजकूर, गणितासाठी आवश्यक असलेली साधने इ. देवघेव करण्यास सक्त मनाई आहे, आपल्याला काही मदत पाहिजे असेल तर पर्यवेक्षकाकडे मागणी करा. पर्यवेक्षकांच्या परवानगीशिवाय कोणत्याही परिस्थितीत आपली जागा सोडू नका.
- पेपर सुरू झाल्यानंतर पहिला अर्धा तास परीक्षा दालन सोडता येणार नाही.

- सुवाच्य अक्षरात उत्तरे पानांच्या दोन्ही बाजूस लिहा. अवाचनीय अक्षर असेल तर उत्तरपत्रिका न तपासली जाण्याची शक्यता आहे.
- पुकीच्या विभागामध्ये उत्तरे लिहू नका, कारण अशी उत्तरे न तपासली जाण्याची शक्यता आहे.
- स्वतःचे सीट नंबर व सब्जेक्ट कोड दर्शविलेल्या नमुन्याप्रमाणे भरावे. उदा. विद्यार्थ्याला सीट नं. 123456 असा असेल तर वरील बॉक्स मध्ये 123456 असे लिहावे व खालील गोळे त्याप्रमाणे भरावे.
- कक्षच्या कामासाठी शेवटचे पान वापरावे आणि ते उभ्या रेषा मारून रद्द करावे.

INSTRUCTIONS FOR STUDENTS

Write your seat number as per sample shown below and fill the circle accordingly.

	1	2	3	4	5	6
	FILL YOUR SEAT NUMBER					
1	●	①	①	①	①	①
2	②	●	②	②	②	②
3	③	③	●	③	③	③
4	④	④	④	●	④	④
5	⑤	⑤	⑤	⑤	●	⑤
6	⑥	⑥	⑥	⑥	⑥	●
7	⑦	⑦	⑦	⑦	⑦	⑦
8	⑧	⑧	⑧	⑧	⑧	⑧
9	⑨	⑨	⑨	⑨	⑨	⑨
0	⑩	⑩	⑩	⑩	⑩	⑩

- Supplement will not be provided.
 - Use Black/Blue Ballpen while writing answer sheet. While drawing a diagram, use the same ballpoint pen or black HB pencil.
 - Do not fold answer sheet. Do not write anything on barcode. Do not write seat number anywhere except the space provided.
 - A) Do not use identification mark (like - x -, *, & etc.) or name, mobile no., e-mail etc., while writing answer sheet.
B) Do not use any other ball pen except black/blue ball pen.
C) Do not write anything on the question paper.
D) Do not bring Mobile phone in the examination hall.
Violating any of the rules from A to D will be considered as adopting unfair means and is punishable as per ordinance-9 of the University.
 - Do not exchange written matter or mathematical equipments. If you require anything, ask supervisor. Do not leave your place without permission of supervisor during the exam periods.
 - Candidates cannot leave the Examination Hall for the first half hour.
 - Write your answers in legible handwriting. Answers written in an illegible and undecipherable handwriting are liable to be marked zero.
- Write your answers in proper sections otherwise answers may not be checked.
 - As per the sample shown fill your seat no. & subject code respectively.
Eg. If the student's seat no. is 123456 write in figures in the square boxes and fill the circles as shown in the box.
 - For Rough work, you can use last page & scratch it.

परीक्षकांसाठी ICR / OMR भरण्याकरिता विशेष सूचना

विद्यार्थ्याला दिलेले गुण खाली दर्शविलेल्या नमुन्या प्रमाणे भरावे.

	3	5
	Examiner	
1	①	①
2	②	②
3	●	③
4	④	④
5	⑤	●
6	⑥	⑥
7	⑦	⑦
8	⑧	⑧
9	⑨	⑨
0	⑩	⑩

- चौकोनातील अंक किंवा गोळे भरण्यास काळ्या किंवा निळ्या रंगाच्या बॉलपेनचा उपयोग करावा.
- ह्या फॉर्मवर गुणांव्यतिरिक्त काहीही लिहू नये. बारकोडच्या रकान्यात कोणतीही निशाणी किंवा खूण करू नये.
- हा फॉर्म काळजीपूर्वक हाताळावा, त्याची घडी किंवा चुरगळा करू नये.
- एकूण गुण दिलेल्या चौकोनात लिहावे व त्याच प्रमाणे दिलेले गोळे भरावे.
- गोळे पूर्णपणे भरलेले असावे, अर्धवट व गोळ्याच्या बाहेर भरू नये.
- विद्यार्थ्याला दिलेले एकूण गुण दर्शविलेल्या नमुन्याप्रमाणे भरावे.
उदा. विद्यार्थ्याला जर एकूण गुण 35 असतील तर वरील बॉक्स मध्ये 35 असे लिहावे व खालील गोळे त्याप्रमाणे भरावे.

INSTRUCTIONS TO EXAMINERS TO FILL ICR / OMR OVERLEAF

- Use Black/Blue Ballpen for writing numbers in boxes and circles.
- Make no stray marks on this Form. Do not write or mark on the barcodes.
- Use this Form with care : do not fold or smudge.
- Enter the Total Marks in the boxes provided and darken the corresponding circle on PART-II.
- You must darken the circles completely as shown.
- As per the sample shown fill the allotted marks given to the students.
Eg. If the marks are given 35. write 35 in the square box and fill the circle accordingly.



केवल उत्तरे लिखित्यत सुरुवात करावी, उत्तरे लिहितांना फक्त काळ्या किंवा निळ्या बॉलपेनचा वापर करावा. Start writing answers from this page. Use only black/blue ballpen.

Q.No.

A 1)

i) Anatomy deals with the study of structure of plants.

→ External

ii) Dendroid trichomes appear as structures.

→ tree like.

iii) Parenchyma containing large air cavities. Then it is known as.

→ Aerenchyma.

iv) Isogeneous cavity is found in:

→ monocot stem

v) Radial vascular bundles are found in.

→ monocot root.

vi) Rubiaceous stomata is also known as.

→ paracytic

vii) The exchange of gases and transpiration take place through.

→ Stomata.



Q.No.

1A

1-2 2-1 3-2 5-1 6-3 7-1 8-3

viii) In maize leaf the stomata pore is surrounded by shaped guard cells.
→ dumbel

Q 2

ii) Vascular cambium: The vascular cambium of the plant is the 1st MC combined dicot stem in present. cell of vascular cambium.

iii) Functional Stomata:-

- i) The Functional Stomata is the exchange of gas in a guard cells
- ii) The Stomata is the transpiration. is the outermost.

iv)

viii) Heart wood: The Heart wood. dark is coloured. central region is secondary wood. xylem



ii) according to the position of plant body, stem is further classified as - 4A the following three types i) Apical 2) Intercalary. 3) Lateral.

1) Apical stem.

The apical stem represent of the tissues.

Region of the initiation the primary tissue organ of the cell. The happen by the additional vascular tissue. The dicotyledon of the roots of the leaf to increase of limited number of radial vascular bundle. The it is cell of apical cell or like.

Apical meristematic to various of the: It called of. meristem.

Lateral

2) Intercalary

The portion of the apical meristematic cell of the plant growth. In the apical meristem between permanent intercalary cells.

3) Lateral. Lateral.

The basal of the apical meristematic root of the lead to increase of the root and stem.



Q.No.

3

2

GC01
11/11/11

The

- i) The complex part parrow a surrounding, by two guard know as Stomata.
- ii) Produce. Paracytic. Stomata - it is also know as Rubecrum Stomata.
- iii) it's have two subdivident cells stands or paracel to Stomata.
- vi) Gramineous Stomata. plonic. present of monocledon. and Paracytic.
- vi) The atomsteramal convering of plants body and iveranial tissues know as epidemiss. Michomates cuticles epiblema.
- ii) epidemal is compocitry arranged. Single. or multas luerematas. Prochymatous tissue.
- iii) which of. is produce. first. shell's or protoxylem
- vi) cuticles is wax, covering on epidormalss which is hypodemiss) vii)



Q.No. Q2

vii) → The Epidermis of Angiosperm is unicellular & multicellular epidermal cell of the stomata & lenticular.

i) The epidermal layer is present in the stem root bud.
• The epidermal is the outer most layer.
interan layer.
the epidermal cuticular most layer.

vi) → Function of collenchyma tissue.
i) Provide mechanical support.
• The

vii) → Are the two types of stomata.
i) Rubiaceae stomata.
ii) Cruciferous stomata.

vi) → vascular bundles of S. sunflower of stem (dicot)
vascular bundles is the open conjoint collateral ring.
vascular is the xylem & phloem.



Q.No.

4

i) - It is maize root following under.
known as m-

a) Epiblema. It is the single layer of the outermost layer consisting of thin walled cells.

b) Cortex - This is multicellular consisting of thin walled, thin parenchyma cells.

c) Endodermis :- It is the single layer of thin cortical compactly arranged barrel-shaped cells.

d) Pericycle :- It is the first internal to the endodermis of the stem. It is single layered of thin walled consist, called as cell vascular bundle. The are Radial in cell of the stem body.

Xylem :- Xylem is parenchyma cells

Phloem : Phloem is absent.



Q.No. 4

iv)
→

Phloem tissue have four complex
 parts sieve tube, companion
 phloem parenchyma, bast fibres.
 ii) sieve tube is intercalated
 depends upon components.

iii) which of collenchyma in structure
 -)

iv) components cell have nuclei and
 which associated with sieve tube.
 v) pithy protoplasm cells of is
 striated.

Sieve tube.

The sieve tube is the elongated.

• The main

• these are the commonly sieve (1883)

• these are the in food conductive tissue

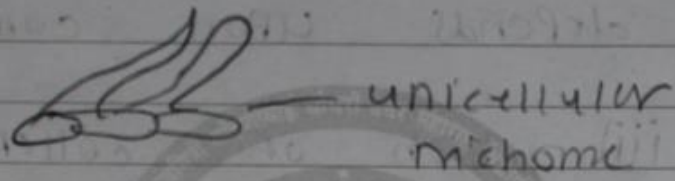
• these are living cells.

• these are permanent tissue.

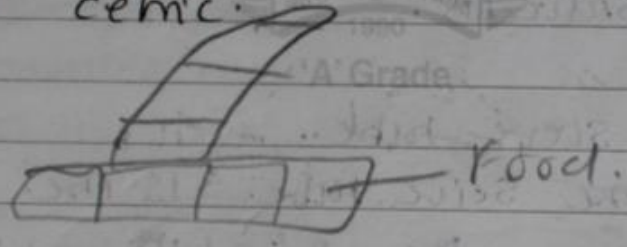


Q.No. 5

ii) trichode have two types
 unicellular and multicellular
 (i) which are unicellular. trichomes
 which is organism formed
 one cells.

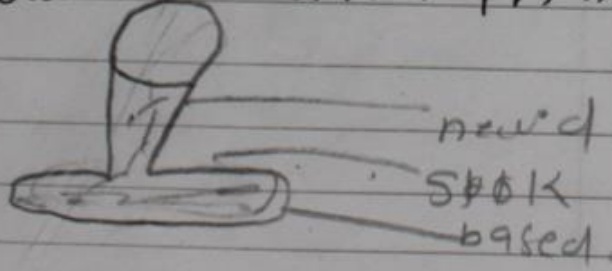


ii) multicellular trichomes.
 these are multicellular
 unicellular or multicellular
 multicentric.



iii) these have two part
 food which is alonide based
 and body elongated.

i) glandular trichomes which
 is glander and in nature





Q.No.

5

Stalk is uni or multi cellular.

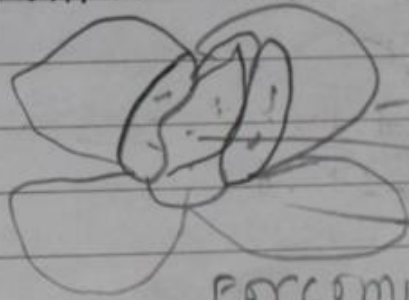
head is uni or multi cellular.

Presented glands in which.

- non glandular - This includes not glands and nervous tissue.

iii) There are five types of stomata, namely:

- Paracombicular
- Cuscutoid
- Published
- Carpotomocytos
- Ganimitas



glandre. cells
stomata

epithelial

Paracombicular Stomata.

which form inversely observed of the paracombicular

Cuscutoid Stomata - which is also called Anisocytic Stomata.

- which have unequal size subsidiary cells. is more.



Q.No.

5

are. smaller ones these are called
e.g. longiride. Endmanus.



substomatal cells

Ciliated Stoma.

It is substomatal cells perianthel.
to gland. cell and Stomata.

organism:

e.g. coccid.



Substomatal cells

Stomata open

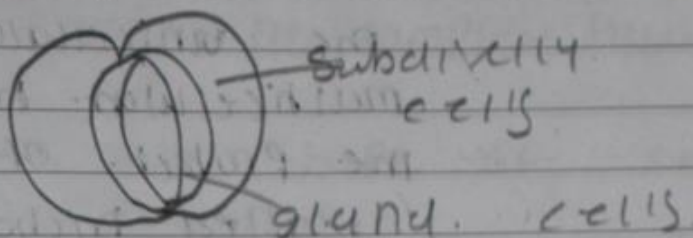
- comparatively stomata - which are also known as dividers stomata.
- In the substomatal cells in angle to axis and of gland cell and pore.
- presented. A car



Q.No.

5

Presented. in Coniophylamarcel.
family.



Stomata. apparatus.

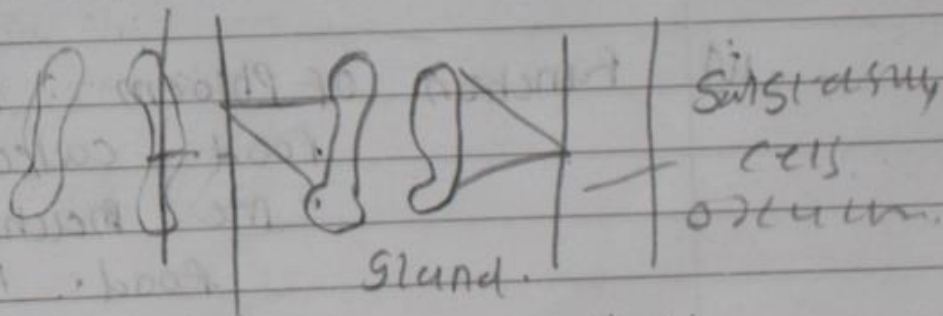
coniophylamarcel stomata.

• ~~It~~ gland cell is. its is foliated.
in mannucytoplast. plants.

• It is glands dumbbell shaped.

Subsidiary cell is one. present. to
glands. cells.

or. ionical.



dumbell cells.



Q.No.

2B

- i) Lenticels. The cork lenticels is the unicellular and multicellular lenticel is the protect. of the plant is called lenticels.
- ii) The exarch xylem is the monocot stem & dicot stem is the xylem is exarch. is vascular bundles.
- iii) Lateral meristem: the meristem is the plants. later. growth of the plants. organ. is known as lateral meristem.
- iv) Function of Phloem: The Phloem is food. conduction tissue. The mechanism of the food. material is the starch oil, fats, Proteins form.



Q.No.



13

Q.No.

B.

v) complex tissue: the complex tissue
one of the tissue is unit
of the complex tissue.

vii) the two type of stomata.
i) Rubio



'A' Grade



Q.No.

02

vi) Function of collenchyma tissue

i) Provide mechanical support

• these collenchyma cells are strong.

• no. without intercellular space

• no. Provide in the leaf stem

vii) epidermis is the outermost layer of

the stem. these are the single layer.

these protect in an inverse tissue.



Q.No.

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15

Q.No.

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'A' Grade



Q.No.

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Q.No.

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'A' Grade



Q.No.

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17

Q.No.

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'A' Grade



Q.No.

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Q.No.

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'A' Grade



Q.No.

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19

Q.No.

--



'A' Grade



Q.No.

--	--	--	--	--	--



20

Q.No.

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'A' Grade



Q.No.

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21

Q.No.

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'A' Grade

21



Q.No.

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Q.No.

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'A' Grade



Q.No.

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Q.No.

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'A' Grade



Q.No.

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25

Q.No.

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'A' Grade



Q.No.

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26

Q.No.

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'A' Grade



Q.No.

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27



'A' Grade



Q.No.

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28

Q.No.

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'A' Grade



Q.No.

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29



'A' Grade



Q.No.

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30

Q.No.

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'A' Grade



Q.No.

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31



'A' Grade



Q.No.

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32

Q.No.

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'A' Grade



Q.No.

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33

Q.No.

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Q.No.					
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Q.No.

