L		2016	CODE : QOS
	$\mathbf{A}$	·	तका क्रमांक (LET NO.
तेळ	 : 1 ( एक ) तास	पेपर क्र1 कृषि विज्ञान	एकूण प्रश्न : 10 एकूण ग्राम् : 20
400			एकूण गुण : 20
(1)	सदर प्रश्नपुस्तिकेत 100 अनिवा	स्नूचाना 14 प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे लिहिण्यास	न सरुवात करण्यापर्वी या प्रश्नपस्तिकेत स
		खात्री करून घ्यावी. असा तसेच अन्य काही दोष अ	
	लगेच बदलून घ्यावी.		
(2)	आपला परीक्षा-क्रमांक ह्या चौको		
· /	न विसरता बॉलप्रेनने लिहावा.	ूर्ण केंद्राची संकेताक्षरे	शेवटचा अंक
(3)	वर खापलेला प्रश्नप्रस्तिका कम्पंत	क तुमच्या उत्तरपत्रिकेवर विशिष्ट जागी उत्तरपत्रिकेवरील	
	उत्तरक्रमांक नमूद करताना तो संब	क्रमांक उत्तरपत्रिकेवरील सू <mark>चनेप्रमा</mark> णे तुमच्या उत्तरपत्रिके बंधित प्रश्नक्रमांकासमोर <mark>छायांकित</mark> करून दर्शविला ज	•.
(5)	सर्व प्रश्नांना समान गुण आहेत. वेगाने प्रश्न सोडवावेत. क्रमाने प्र	<b>वे, पेन्सिल वा शाईचे पेन वापरू नये</b> . <u>यास्तव सर्व प्रश्नांची उत्तरे द्यावीत</u> , घाईमुळे चुका होण प्रश्न सोडविणे श्रेय <mark>स्कर आ</mark> हे पण <b>एखादा प्रश्न कठोण</b>	ार नाहीत याची दक्षता घेऊनच शक्य तितक्य 1 <b>वाटल्यास त्यावर वेळ न घालविता पुढी</b> र
(5)	सर्व प्रश्नांना समान <u>गुण आहेत.</u> वेगाने प्रश्न सोडवावेत. क्रमाने प्र <b>प्रश्नाकडे वळावे.</b> अशा प्रकारे परतणे सोईस्कर ठरेल.	<b>वे, पेन्सिल वा शाईचे पेन वापरू नये</b> . <u>यास्तव सर्व प्रश्नांची उत्तरे द्यावीत</u> . घाईमुळे चुका होण प्रश्न सोडविणे श्रेयस्कर आहे पण <b>एखादा प्रश्न कठीण</b> शेवटच्या प्रश्नाप <mark>र्यंत पोहोचल्यानंतर वेळ शिल्लक रा</mark> गि	ार नाहीत याची दक्षता घेऊनच शक्य तितक्य 1 <b>वाटल्यास त्यावर वेळ न घाल्त्रविता पुढी</b> र हेल्यास कठीण म्हणून वगळलेल्या प्रश्नांक
(5) (6)	सर्व प्रश्नांना समान गुण आहेत. वेगाने प्रश्न सोडवावेत. क्रमाने प्र <b>प्रश्नाकडे वळावे.</b> अशा प्रकारे परतणे सोईस्कर ठरेल. उत्तरपत्रिकेत एकदा नमूद केलेले उ	<b>वे, पेन्सिल वा शाईचे पेन वापरू नये</b> . <u>यास्तव सर्व प्रश्नांची उत्तरे द्यावीत</u> , घाईमुळे चुका होण प्रश्न सोडविणे श्रेयस्कर आहे पण ए <b>खादा प्रश्न कठीण</b> शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक र्सा उत्तर खोडता <mark>येणार नाही. नमूद केलेले उत्तर खोडू</mark> न नव्या <sup>2</sup>	ार नाहीत याची दक्षता घेऊनच शक्य तितक्य 1 <b>वाटल्यास त्यावर वेळ न घालविता पुढी</b> र हेल्यास कठीण म्हणून वगळलेल्या प्रश्नांक ने उत्तर दिल्यास ते तपासले जाणार नाही.
(5) (6) (7)	सर्व प्रश्नांना समान गुण आहेत. वेगाने प्रश्न सोडवावेत. क्रमाने प्र प्रश्नाकडे वळावे. अशा प्रकारे परतणे सोईस्कर ठरेल. उत्तरपत्रिकेत एकदा नमूद केलेले उ प्रस्तुत परीक्षेच्या उत्तरपत्रिका तसेच''उमेदवाराने वस्तुनिष्ठ	<b>वे, पेन्सिल वा शाईचे पेन वापरू नये</b> . <u>यास्तव सर्व प्रश्नांची उत्तरे द्यावीत</u> . घाईमुळे चुका होण प्रश्न सोडविणे श्रेयस्कर आहे पण <b>एखादा प्रश्न कठीण</b> शेवटच्या प्रश्नाप <mark>र्यंत पोहोचल्यानंतर वेळ शिल्लक रा</mark> गि	ार नाहीत याची दक्षता घेऊनच शक्य तितक्य 1 <b>वाटल्यास त्यावर वेळ न घालविता पुढी</b> र हेल्यास कठीण म्हणून वगळलेल्या प्रश्नांक ने उत्तर दिल्यास ते तपासले जाणार नाही. तील योग्य उत्तरांनाच गुण दिले जातील <mark>यापैकी सर्वात योग्य उत्तरे</mark> च उत्तरपत्रिके
(5) (6) (7)	सर्व प्रश्नांना समान गुण आहेत. वेगाने प्रश्न सोडवावेत. क्रमाने प्र प्रश्नाकडे वळावे. अशा प्रकारे परतणे सोईस्कर ठरेल. उत्तरपत्रिकेत एकदा नमूद केलेले उ प्रस्तुत परीक्षेच्या उत्तरपत्रिका तसेच ''उमेदवाराने वस्तुनिष्ठ नमूद करावीत. अन्यथा त्यां करण्यात येतील''.	वे, पेन्सिल वा शाईचे पेन वापरू नये. <u>यास्तव सर्व प्रश्नांची उत्तरे द्यावीत</u> . घाईमुळे चुका होण प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक सा उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्या ंचे मूल्यांकन करताना उमेदवाराच्या उत्तरपत्रिके बहुप <mark>र्यां</mark> यी स्वरूपाच्या प्रश्नांची दिलेल्या चार पर्या	ार नाहीत याची दक्षता घेऊनच शक्य तितक्य 1 वाटल्यास त्यावर वेळन घालविता पुढीर हेल्यास कठीण म्हणून वगळलेल्या प्रश्नांक ने उत्तर दिल्यास ते तपासले जाणार नाही. तील योग्य उत्तरांनाच गुण दिले जातील यापैकी सर्वात योग्य उत्तरेच उत्तरपत्रिके विया उत्तरांसाठी एका प्रश्नाचे गुण वज

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# \_\_\_\_\_\_\_ पुढील सूचना प्रश्नपुस्तिकेच्या अंतिम पृष्ठावर पहा

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QO8

# कच्च्या कामासाठी जागा /SPACE FOR ROUGH WORK

Adda 247

Α					3				QO8
1.		ich of the follov nges in conditio						pertai	ns to short term
	(1)	Climate	(2)	Weather		(3)	Atmosphere	(4)	Season
2.	inoc	is a p culum.	lant pa	thogen us	ed for	wee	d control throu	ıgh ap	plication of its
	(1)	Bioagents			(2)	Bioi	nsecticide		
	(3)	Bioherbicide			(4)	Non	e of these		
3.									er by growing a n as,
	(a)	Minimum tilla	age		(b)	Stub	ble mulch tillag	e	
	(c)	Secondary till	age		(d)	Stub	ble mulch farm	ing	
	Ans	wer options :							
	(1)	(b) only	(2)	(b) and (o	:)	(3)	(a) and (d)	(4)	(d) only
4.		Indian Meteoro		Departmen	t (IMC	) is i <b>s</b> s	suing a daily for	ecast ev	very afternoon is
	(1)	Tentative crop	o outloo	k	(2)	Farn	ne <mark>rs W</mark> eather Bu	ılletin	
	(3)	Medium Rang	ge foreca	asts	(4)	Peri	odic forecasts		
5.	Vert	tical mulching l	has beer	1 developed					
	(1)	reduce evapo	transpir	ation					
	(2)	reduce evapo	ration						
	(2) (3)	reduce evapo improve orga		erial availa	bility				

Q08 4 Α 6. Which of the following is categorised under seed's viability test? (1)Physical test Embryo culture method (2)(3) Traditional bite test (4) Carl Fisher reagent method 7. Tillage performed from the start of the crop season to the crop harvest are known as tillage operations : (1)off-season (2)sub-soiling (3)clean cultivation (4)on-season 8. Which of the following consists of transforming relatively steep land into a series of level strips across the slope to reduce slope length and consequently erosion ? (a) Graded bunding . Bench terracing (b) (d) (c) Contour bund Graded border strip **Answer options :** (1)(a) (2)(b) (3)(c) and (d) (4) (d) 9. The ratio of total cropped area in a year to the total land area available for cultivation expressed in percentage is (2)Cultivated land utilization (1)Cropping index (3) Multiple cropping intensity (4) Land equivalent index The ability to maintain favourable water balance and turgidity even when subjected to 10. drought thereby avoiding stress and its consequences is referred as \_\_\_\_\_ (a) Drought tolerance Drought avoidance (b) Mitigating stress (d) Drought escaping (c) **Answer options :** (2)(1)(a) (b) (3) (a) and (c) (4) (c) and (d)

A			5		QO8
11.	Impo	ortant components of farming syst	em is	/are	
-	(a)	multiple cropping	(b)	poultry farming	
	(c)	sequential cropping	(d)	multi storied cropping	
	Ansv	wer options :			
	(1)	(a) and (b) only	(2)	(b) and (c) only	
	(3)	(a), (b) and (c) only	(4)	All above	
12.	The	optimum seed rate of bajra is about	ut	per ha.	
	(1)	4 to 5 kg	(2)	12 to 15 kg	
	(3)	8 to 10 kg	(4)	10 to 12 kg	·
13.	Wee	d can be defined as			
	(a)	a plant growing where it is not w	vantec		
	(b)	an unwanted plant			
	<u>(</u> c)	a plant out of place			-
	(d)	a plant that is interfering with the	e requ	irements of people.	
	Ans	wer options :			
	(1)	(a) and (b) only	(2)	(b), (c) and (d) only	
	(3)	(c) and (d) only	(4)	All above	
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कच्च्या कामासात्री जागा /SPACE FOR ROUGH WORK

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14.	rung	gus causing lus	arium v	vilt in gram					
	(a)	Fusarium Solar	1i						
	(b)	Fusarium oxys	porum						
	(c)	Uromyces cicer	is - arie	tini					
	(d)	Fusarium beng	alensis						
	Ans	wer options :							
	(1)	(a)	(2)	(b)	(	(3)	(a) and (c)	(4)	(d)
15.	How	v much area of	groundi	nut is sown i	n the l		if season under	rainfec	l conditions ?
	(1)	About 70%	(2)	About 60%		(3)	About 95%	(4)	About 50%
16.	Mete	eorological Org	anisatio	on (WMO) w	ith hea	adqı	larters in	·	through World
16.					ith hea			·	through World New York
	Mete (1) Com	eorological Org Moscow	anisatio (2)	on (WMO) w Geneva	ith hea (	adqı (3)	London	(4)	Ū
	Mete (1)	eorological Org Moscow	anisatio (2) eraction	on (WMO) w Geneva of various cr	ith hea ( ops wł	adqı (3) hich	London	(4)	New York
	Mete (1) Com as _	eorological Org Moscow plementary inte	anisatio (2) eraction	on (WMO) w Geneva	ith hea ( ops wh (2)	adqı (3) hich Ann	London	(4)	New York
17.	Mete (1) Com as _ (1) (3)	eorological Org Moscow nplementary inte Intercropping Interaction	anisatio (2) eraction	on (WMO) w Geneva of various cr	ith hea ( ops wh (2) 4 (4) 6	adqu (3) nich Ann Com	London	(4) pace an	New York
16. 17. 18.	Mete (1) Com as _ (1) (3)	eorological Org Moscow nplementary inte Intercropping Interaction	anisatio (2) eraction ty havir	on (WMO) w Geneva of various cr ng higher gra M – 35 – 1	ith hea ( ops wh (2) . (4) ( in qua	adqu (3) nich Ann Com lity (3)	London occurs in both split and fodder yield PVK - 400	(4) pace an d. (4)	New York
17.  18.	Mete (1) Com as _ (1) (3) Rabi (1)	eorological Org Moscow nplementary inte Intercropping Interaction	anisatio (2) eraction ty havir (2).	on (WMO) w Geneva of various cr ng higher gra M - 35 - 1	ith hea ( ops wh (2) (4) (4)	adqu (3) nich Ann Com lity (3)	London occurs in both split idation and fodder yield PVK - 400	(4) pace an d. (4)	New York

Α			7	QO8
19.	Follo	owing are the species of turmeri	c out of	that which is 'Ambe halad' :
	(1)	Curcuma amoda	(2)	Curcuma augustiafolia
	(3)	Curcuma aromatic, Salish	(4)	Curcuma longa

**20.** Which of the following terms is used to express the water that an even dry soil absorbs when kept under nearly a saturated atmosphere ?

(a) Hygroscop	ic co-efficient	(b)	Oven-d <b>r</b> y soil		
(c) . Permanent	wilting point	(d)	Air dry soil		
Answer options	:				
(1) (a)	(2) (b)		(3) (c)	(4)	(b) and (d)

21. Which of the following methods is not used for estimating the crop water requirement ?

(1)	Transpiration ratio method	(2)	Soil moisture depletion
(3)	Climatological approach	(4)	T <mark>ensiome</mark> ter and Gypsum block method

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22. Petals of \_\_\_\_\_ crop are sold as substitute for saffron and used in food, beverages and medicinal preparations.

(1)	Helianthus annus	(2)	Guizotia abyssinica
(3)	Linium usitassimum	(4)	Carthamus tinctorius

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- 23. Who carries out research on scientific cultivation of crops taking into account the effects of factors like soil, climate ?
  - (1) Agrometeorologist (2) Soil scientist
  - (3) Agronomist (4) Geologist

24. In sustainable agriculture \_\_\_\_\_

- (1) Chemical fertilizers are used
- (2) Chemical pesticides and fungicides are used
- (3) High productivity and low diversity chemical are used
- (4) High diversity, renewable and bio-degradable inputs are used
- 25. In which of the following drainage system main and submain are laid in low area and laterals could be drown from both sides ?
  - (1) Random or natural (2) Herringbone system
  - (3) Gridiron system (4) Parellel system
- 26. Advantages of  $C_4$  plants over  $C_3$  plants are
  - (a) The carboxylating enzyme has high potential activity
  - (b) For the same amount of stomatal opening have higher photosynthesis rate
  - (c) Translocate photosynthetes more rapidly
  - (d) Drought resistant

#### Answer options :

- (1) (a), (b) and (d) only (2) (d), (c) and (b) only
- (3) all above (4) (b), (c) and (a) only

Α		9	QO8
27. Diff	erent micro-catchment method	s used for	r water harvesting is/are
(a)	Compartmental bunding	· (b)	Circular basin
(c)	Crescent method	(d)	Micro check dams
Ans	wer options :		
(1)	(d), (c) and (b)	(2)	(a), (b) and (c)
(3)	(c), (a) and (d)	(4)	All above
			urce for agriculture to satisfy changing human y of the environment and conserving natural
(1)	Sustainable agriculture	(2)	Organic farming
(3)	Biodynamic agriculture	(4)	Integrated farming
29. App	blying irrigation through shallo	w furrows	to close growing crops is called
<b>29</b> . App (1)	olying irrigation through shallow short furrow irrigation	w furrows (2)	
11			
(1) (3) <b>30</b> . The	short furrow irrigation alternate furrow irrigation	(2) (4) ;, mechani	corrugation irrigation spaced furrow irrigation
(1) (3) <b>30</b> . The	short furrow irrigation alternate furrow irrigation process of beaking, scratching	(2) (4) ;, mechani	corrugation irrigation spaced furrow irrigation
(1) (3) 30. The mak	short furrow irrigation alternate furrow irrigation process of beaking, scratching se them permeable to water an	(2) (4) ;, mechani d gases is	corrugation irrigation spaced furrow irrigation ically altering or softening the seed coats to known as
(1) (3) 30. The mak (1) (3)	short furrow irrigation alternate furrow irrigation process of beaking, scratching te them permeable to water an stratification scarification	(2) (4) ;, mechani d gases is (2) (4)	corrugation irrigation spaced furrow irrigation ically altering or softening the seed coats to known as acid seed treatment

QO	08 10	Α
32.	Among the following which rays are largely absorbed in the atmosphere ?	
	(1) infrared rays (2) ultraviolet rays (3) Gamma rays (4) X-rays	
33.	The most important objectives of tillage are	
	(1) Ploughing, harrowing and clod crushing	
	(2) Seedbed preparation, weed control and soil and water conservation	
	(3) To improve the soil structure, arrange the soil particles and improve the bulk de	ısity
	(4) To break the hard pan of soil, improve the irrigation and crop growth	
34.	Which state has maximum area as well as production which contributes > 50% of guar production of our country ?         (1) Maharashtra       (2) Rajasthan         (3) Cuincet       (4) Madhua Pradesh	total
	(3) Gujarat (4) Madhya Pradesh	
35.	Rainfed farming is cultivation of crops in regions receiving annual rainfall	
	(3) Between 750 to 1150 mm (4) More than 1150 mm	

- **36.** Name the pre emergence herbicide which effectively controls the broad leaf weeds and most grasses in maize crop ?
  - (1) Oxyflurofen (2) Pendimethalin (3) Glyphoset (4) Atrazine

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Α						11				QO8
37.	of so	is a func oil water depletic			capacity of the root-zone soil and the extent on ?					
	(a)	Depth of irriga	tion		(b) Interval of irrigation				on	
	(c)	Irrigation frequ	aency			(d)	Oute	er capillary w	ater	
	Ans	wer options :								
÷	(1)	(a)	(2)	(a) ar	nd (b)	)	(3)	(c)	(4)	(b) and (d)
38.	Whi	ch of the followi	ng can	stabili	ize so	il stru	cture	and improve	tilth ?	
	(a)	Irrigation				(b)	Org	anic matter		
	(c)	Fertilizers				(d)	Biof	ertilizers		
	Ans	wer options :								
	(1)	(a) and (c)	(2)	(b)			(3)	(a) and (b)	(4)	(c) and (d)
39.	-	lantation crops th duration is kno	-	ice of g	growi	ng dif	ferent	crops of varyi	ng height	, rooting pattern
	(1)	Inter cropping				(2)	Mix	ed cropping		
	(3)	Multi-tier crop	ping			(4)	Trip	le cropping		
40.	Aci	l scarification is	ucually	r done	for w	vhich (	of the	following cro	n 2	
40.	(1)	Agave	(2)	Jute			(3)	Sunhemp	(4)	Cotton
41.	Scho	onite a, by produ	.ct of c	oastal s	salt ir	ıdustr	y is a	:		
	(1)	nitrogenous fe	rtiliz <b>er</b>		(2)	phos	sphati	c fertilizer		
	(3)	potassic fertiliz	ze <b>r</b>		(4)	micr	onutr	ient fertilizer		
	<u></u>							•		

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1) The o 1) 3)	e determination of particle size Fick's Law (2) Davi's commonly used preservatives a Gypsum and superphosphate Sulphate of potash and urea ation water is not suitable if re more than 1.25 (m.e./L.)	Law added to e (2) (4)	(3) the FY Urea Calc	Stoke's Law	ium ph	osphate		
The of 1) 3)	commonly used preservatives a Gypsum and superphosphate Sulphate of potash and urea ation water is not suitable if re	added to e (2) (4)	the FY Urea Calc	(M to decrease r a and diammoni	nitroger ium ph	n losses are : nosphate		
1) 3) 	Gypsum and superphosphate Sulphate of potash and urea ation water is not suitable if re	e (2) (4)	Urea Calc	a and diammoni	ium ph	osphate		
3) ——	Sulphate of potash and urea	(4)	Calc		-	-		
rriga	ation water is not suitable if re			ium carbonate a	and ure	ea		
Ū		sidual so	dium					
1)	more than 1.25 (m.e./L.)			carbonate conte	nt is :			
		(2)	more	e than 1.50 (m.e	e./L.)			
3)	more than 1.75 (m.e./L.)	(4)	more	e than 2.50 (m. $\epsilon$	e./L.)			
he	acid soils can be managed by a	meliorati	ing the	e soil through aj	pplicati	on of :		
1) Liming material			(2) Gypsum					
3)	lron sulphate	(4)	Iron	pyrite				
Biolo	ogically soil water is <mark>cla</mark> ssified a	15 :	ſ					
1)	Gravitational, capillary and I	ygroscop	oic wa	ter				
2)	Available, unavailable and su	ıperfluou	is wate	er			•	
3)	Superfluous, hygroscopic and	t capillar	y wate	er				
4)	Available, unavailable and h	ygroscop	ic wat	er				
Ave:	rage percentage of nitrogen in	the fresh	excret	ta is more in :				
1)	cows and bullocks	(2)	shee	ep and goats				
3)	horses	(4)	Pigs					
$1 \\ 3 \\ - \\ 3 \\ 1 \\ 2 \\ 3 \\ 4 \\ - \\ 4 \\ - \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	) .olc ) :) :) .ve:	<ul> <li>) Liming material</li> <li>) Iron sulphate</li> <li>ologically soil water is classified a</li> <li>) Gravitational, capillary and h</li> <li>&gt;) Available, unavailable and su</li> <li>&gt;) Superfluous, hygroscopic and</li> <li>&gt;) Available, unavailable and h</li> <li>&gt;) verage percentage of nitrogen in</li> <li>) cows and bullocks</li> </ul>	) Liming material (2) ) Iron sulphate (4) ologically soil water is classified as : ) Gravitational, capillary and hygroscop ) Available, unavailable and superfluou ) Superfluous, hygroscopic and capillar ) Available, unavailable and hygroscop verage percentage of nitrogen in the fresh ) cows and bullocks (2)	) Liming material       (2) Gyp         ) Iron sulphate       (4) Iron         ologically soil water is classified as :       (4)         ) Gravitational, capillary and hygroscopic wate         ) Available, unavailable and superfluous wate         ) Superfluous, hygroscopic and capillary wate         (2) Gyp         (4) Iron         (5) Oravitational, capillary and hygroscopic wate         (6) Available, unavailable and superfluous wate         (7) Available, unavailable and hygroscopic wate         (8) Available, unavailable and hygroscopic wate         (9) Available, unavailable and hygroscopic wate         (10) Oravitation         (11) Oravitation         (12) Available, unavailable and hygroscopic wate         (13) Oravitation         (14) Oravitation         (15) Oravitation         (16) Oravitation         (17) Oravitation         (18) Oravitation	<ul> <li>) Liming material (2) Gypsum</li> <li>) Iron sulphate (4) Iron pyrite</li> <li>ologically soil water is classified as :</li> <li>) Gravitational, capillary and hygroscopic water</li> <li>) Available, unavailable and superfluous water</li> <li>) Superfluous, hygroscopic and capillary water</li> <li>) Available, unavailable and hygroscopic water</li> <li>) Available, unavailable and hygroscopic water</li> <li>) Available, unavailable and hygroscopic water</li> <li>) cows and bullocks (2) sheep and goats</li> </ul>	) Liming material       (2) Gypsum         ) Iron sulphate       (4) Iron pyrite         ologically soil water is classified as :       (4)         ) Gravitational, capillary and hygroscopic water         ) Available, unavailable and superfluous water         ) Superfluous, hygroscopic and capillary water         ) Available, unavailable and hygroscopic water         ) Available, unavailable and hygroscopic water         ) Available, unavailable and hygroscopic water         ) or sulphate         (2) sheep and goats	) Iron sulphate       (4) Iron pyrite         ologically soil water is classified as :       )         ) Gravitational, capillary and hygroscopic water         ) Available, unavailable and superfluous water         ) Superfluous, hygroscopic and capillary water         .) Available, unavailable and hygroscopic water         verage percentage of nitrogen in the fresh excreta is more in :         .) cows and bullocks       (2) sheep and goats	

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48.	Sme	ctite group of mine	erals	include :							
	(a)	montmorillonite			(b)	sapc	onite				
	(c)	non tronite			(d)	beid	ellite				
	Ans	wer options :									
	(1)	(a) and (b)	(2)	(b) and (c	)	(3)	(a), (b) and (c)	(4)	All of these		
<u> </u>	Which of the following mineral is the most resistant to weathering ?										
	(1)	Biotite	(2)	Quartz		(3)	Gypsum	(4)	Granite		
50.	The 'law of minimum' hypothesis put forward by :										
	(1)	Von Liabig		(2)	De I	avois	er	۴,			
	(3)	Warrington		(4)	Law	s and	Gilbert				
<u> </u>	Many toxic pesticides remain active in the environment for only a few days or a week. Among the following which pesticides has less persistence in soil.										
	(1)	Hept <mark>ach</mark> lor, Aldı	rin		(2)	Atra	zine, 2-4-D				
	(3)	Chlorodane, Die	ldrin		(4)	נסס	г, внс				
52.	Oxidation is an important chemical reaction occuring in well aerated rock and soil materials where.										
	(1)	(1) oxygen supply is low and biological oxygen demand is low									
	(2)	(2) oxygen supply is low and biological oxygen demand is high									
	(3)	oxygen supply is	s high	and biolog	gical o	xyger	demand is low				
	(4)	(4) oxygen supply is high and biological oxygen demand is high									

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53. The process of enrichment of surface water bodies with nutrient is referred as :

(1)	putrification	(2)	fortification
(3)	nutrification	(4)	eutrophication

**54.** Pore spaces in soil consists of that portion of the soil volume not occupied by solids. The pore space under field conditions are occupied at all times by air and water. Which of the following Statements is/are correct.

- (1) Clayey soils have greater number of micropores
- (2) Sandy soils have large number of macropores
- (3) Soil containing high organic matter possess high porosity
- (4) Intensive crop cultivation tends to lower the porosity of soils as compared to fallow soil.

55. Zinc deficiency symptoms observed in plants commonly named as :

(a) Little leaf of cotton	(b)	Khaira disease of rice	
(c) White bud of maize	(d)	Frenching of citrus	
Answer options :			
(1) (a) and (b) (2)	(b) and (c)	(3) (a) and (c)	(4) All of these

56. The chelating agent EDTA is :

- (1) Ethylene diamine tetra acetic acid
- (2) Ethylene dimethoate tetra acetic acid
- (3) Ethylene dimethyl tetra acetic acid
- (4) Ether dimethyl tetra acetic acid

57. Match the following :

- (a) Symbiotic Nitrogen fixation (i) Frankia
- (b) Non-symbiotic nitrogen fixation (ii) Azotobacter
- (c) Cynobacteria (iii) Rhizobium
- (d) Actinomycetes (iv) Anabaena
  - (a) (b) (c) (d)

(1) (i) (iv) (iii) (ii) (2) (iii) (ii) (iv) (i)

(4) (ii) (i) (iv) (iii)

(iii)

(i)

(ii)

(3)

(iv)

- 58. Based on the shape and arrangement of peds or aggregates, soil structure is classified into the four principal types :
  - (1) plate like, prism like, block like and spherodical
  - (2) prismatic, columner, angular and granular
  - (3) platy, blocky, granular and crumb
  - (4) platy, prismatic, angular and columner

59. The salts primarily originate as a result of :

- (a) hydrolysis (b) hydration
- (c) carbonation (d) oxidation-reduction

## **Answer options :**

(1) (a) and (b) (2) (a) and (c) (3) (a) and (d) (4) All of these

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60.	As per the wet oxidation (Walkley and Black) method of carbon estimation organic matter is calculated by multiplying the organic carbon values by a conversion factor 1.724 on the assumption that :											
	(1) soil organic matter contains 58 percent carbon											
	(2)	(2) soil organic matter contains 56 percent carbon										
	(3)	(3) soil organic matter contains 54 percent carbon										
	(4)	soil organic m	atter co	ontains 52	percent	t carb	on .					
61.	Pow	er developed b	y an ave	erage pair	of bulle	oc <b>ks</b> is	about :		:			
	(1)	1 hp	(2)	0.1 hp		(3)	2.5 hp		(4)	0.3 hp		
62.	It is a mechanical manipulation of soil to provide favourable condition for crop production is known as :											
	(1)	Puddling	(2)	Tillage		(3)	Seeding	(4)	None	e of the above		
63.	lt is	a machine to ci	ut herba	ge crops a	and leav	ve the	m in swath	is call	ed as :			
	(1)	Reaper	(2)	Mower		(3)	Sickle	(4)	None	e of the above		
64.	It is that part of the plough which slides against the furrow walls and gives lateral stability in the plough is called as :										ţy	
	(1)	Landside	(2)	Frog		(3)	Mould be	oard	(4)	Standard		
65.	A draft animal can exert about of its body weight for doing farm work.											
	(1)	One - tenth	(2)	Three -	fourth	(3)	One - thi	rd	(4)	One - half '		
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66.	It is	It is that part of the plough to which landside, mould board and share are attached.										
	(1)	Mould board	(2)	Beam	(3)	Frog (4)	Star	ndard				
67.		is a mach	ine wh	ich cuts the crops	s and t	ies them into ne	at and 1	iniform sheaves.				
	(1)	Mower	(2)	Windrower	(3)	Reaper binder	: (4)	Reaper				
68.	Equ	ipment for placir	ng <u>•</u>	in the sc	oil is c	alled Transplan	ter.					
	(1)	seeds	(2)	plants	(3)	sets	(4)	rizomes				
69.	Trac	tors can be classi	fied o	n the basis of str	uctura	l design :						
	(1)	Wheel tractor	(2)	Crawler tracto	r (3)	Walking tract	or (4)	All above				
70.		After starting the engine, the is engaged to transmit power from the engine to the gear box.										
	(1)	Rear axle	(2)	Differential	(3)	Connecting ro	od (4)	Clutch				
- <u>-</u> 71.	Gra	in isotherms are	gener	ally	C	······································						
	(1)	L - Shaped	(2)	S - Shaped	(3)	Z - Shaped	(4)	V - Shaped				
72.	For	grain conveying	throu	igh belt conveyo	or, the	belt speed sho	ould be	in the range of				
	(1)	0.1 to 0.5 m/s	(2)	2.5 to 2.8 m/s	(3)	10.5 to 15.5 m	n/s (4)	25 to 28 m/s				
<u> </u>												

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73. The moisture migration in stored grains results from \_\_\_\_\_.

- (1) Temperature change
- (2) Pressure change
- (3) Change in hydraulic conductivity
- (4) All of above

74. In deep bed drying the sequence of three zones present in the bin from bottom to top is

- (1) dried grain drying front wet grain
- (2) wet grain drying front dried grain
- (3) drying front dried grain wet grain
- (4) dried grain wet grain drying front

75. The capacity of Morai type storage structure ranges from \_\_\_\_\_\_ to \_\_\_\_\_\_ to \_\_\_\_\_\_

(1) 1 to 3.5 (2) 1 to 2.5 (3) 3.5 to 18 (4) 9.5 to 35.5

76. In Air screen cleaner, the width of screen affect

- (1) the capacity of cleaner (2) efficiency of cleaner
- (3) both (1) and (2) (4) none of above

77. \_\_\_\_\_ moves granular materials in a closed duct by a high velocity of air stream.

- (1) Belt Conveyor (2) Bucket Elevator
- (3) Screw Conveyor (4) Pneumatic Conveyor

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78.	Chilling of food is usually done in the range of temperature of									
	(1) $-2$ to $2^{\circ}$ C (2) $-10^{\circ}$	to 10°C	(3) $-40$ to $10^{\circ}$ C · (4) $-20$ to $20^{\circ}$ C							
79.	To separate round seeds like fir	iger mille	et from wheat the best type of separator is							
	(1) indented cylinder separator	(2)	specific gravity separator							
-	(3) centrifugal separator	(4)	spiral separator							
80.	A continuous flow - mixing type	grain drye	er, LSU was developed at							
	(1) Ludhiana, India	(2)	London, England							
	(3) <sub>,</sub> Louisiana, USA	(4)	None of these							
81.	An is an angular mea	surement	in a spherical coordinate system.							
	(1) Azimuth (2) Zenit	h	(3) Celestial (4) Latitude							
82.	In Maharashtra vi management including soil and v		famous for implementation of watershed servation structures.							
	(1) Dapoli (2) Akola	3	(3) Heware Bazar (4) Basmat							
	Emulsions of asphalt in water, is	actually _	form of mulch.							
	(1) Rasin	(2)	Bitumen emulsion							
	(3) Petrolium	(4)	Canvas							

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84.	Which formula is used to determine horizo terraces ?	ntal distance between two consecutive bench
	If	
	D = Vertical depth between two consecutive	e terraces, m
	S=slope of land, %	
	(1) $\frac{100}{5 \text{ D}}$ (2) $\frac{5 \text{ D}}{100}$ .	(3) $\frac{100 \text{ S}}{\text{D}}$ (4) $\frac{100 \text{ D}}{\text{S}}$
85.	In which of the following survey, alidade is	an important instrument ?
	(1) Dumpy level survey (2)	Prismatic compass survey
	(3) Theodolite survey (4)	Plane table survey
86.	Calculate the width of bench terrace for 15 and 1.1 as batter slope :	% hill land slope with 2.5 m vertical interval
	(1) 10 m (2) 12 m	(3) 14 m (4) 16 m
87.	The least count of prismatic compass is	
		(3) 15 minutes (4) 20 minutes
88.	The is an electronic theodolite in read slope distances from the instrument to	ntegrated with an electronic distance meter to a particular point.
	•	(3) GIS (4) GPS
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89.	is a precision instrument used for measuring angles in the horizontal a vertical planes :								
	(1)	Theodolite	(2)	Inclinometer	(3)	Dumpy level			
90.		loamy sand, the		mended strip wi		wind-strip crop			
	(1)	75 m	(2)	7 m	(3)	30 m	(4)	6 m	
<del>9</del> 1.	The	nozzle pressure	of a sp	rinkler head is n	ormall	y checked with t	he help	o of a	
	(1)	manometer	(2)	pitot tube	(3)	ventury	(4)	notch	
92.	Clay	pipes or tiles u	ised in a	subsurface drain	age sy	stem are usually	made	in lengths of	
	(1)	10 cm	(2)	30 cm	(3)	70 cm	(4)	100 cm	
	(1)	10 cm	(?)	30 cm	(3)	70 cm	(4)	100 cm .	
			<u>.</u>			70 cm ost efficient wate			
	For		<u>.</u>		the m	50			
93.	For is :	irrigation water	having	; fine sand in it,	the mo	ost efficient wate			
	For is : (1)	irrigation water sand filter	having	g fine sand in it, (2)	the mo	ost efficient wate een filter			
	For is : (1) (3)	irrigation water sand filter hydro cyclone	having filter	; fine sand in it, (2) (4)	the mo scre disc	ost efficient wate een filter	er filter	for drip syst	

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95. Pressure compensating emitters are designed :

- (a) to produce different pressures in lateral.
- (b) to discharge water at a constant rate over a wide range of operating pressures.
- (c) to continuously permit passage of large solid particles.

**Answer options :** 

- (1) Only (a) (2) Only (b)
- (3) Only (c) (4) All (a), (b) and (c)

96. The space requirement for hen is increased due to hot climate by :

- (1)  $0.46 \text{ m}^2/\text{bird}$  (2)  $0.046 \text{ m}^2/\text{bird}$
- (3)  $0.046 \text{ cm}^2/\text{bird}$  (4)  $0.46 \text{ cm}^2/\text{bird}$

97. Disposing the farm produce point of view, location of farmstead should be located at :

- (1) Centre of farm (2) Middle of long side
- (3) One side or at corner near road (4) Only at one side

**98.** Green house operations costs include expenditure on environmental and agricultural inputs. As a result the cost of production per unit Greenhouse area as compared to open field condition is :

(1)	Lower	(2)	Higher	(3)	Equal	(4)	None of the above
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99. The type of mortar to be used for stone-masonry construction depends on :

(1) Strength required

(2) Load coming on structure

(3) Resistance desired for weathering agencies

(4) All of these

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100. The spoilage of silage and dry matter losses of horizontal silos range between :

- (1) 20 and 30 percent . (2) 30 and 40 percent
- (3) 5 and 10 percent

(4) None of the above

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QO8

### सूचना — (पृष्ठ 1 वरून पुढे....)

- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते कॉपी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जारी केलेल्या ''परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचे अधिनियम–82'' यातील तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सदर प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपल्यानंतर उमेदवाराला ही प्रश्नपुस्तिका स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षा कक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

# नमुना प्रश्न

Pick out the correct word to fill in the blank :

 प्र. क. 201.
 I congratulate you \_\_\_\_\_\_ your grand success.

 (1)
 for
 (2)
 at

 (3)
 on
 (4)
 about

 . द्या प्रश्नाचे योग्य उत्तर ''(3) on'' अंसे आहे. त्यामुळे या प्रश्नाचे उत्तर ''(3)'' होईल, यास्तव खालीलप्रमाणे

 प्रश्न क. 201 समोरोल उत्तर-क्रमांक ''(3)'' हे वर्तुळ पूर्णपणे छार्यांकित करून दाखविणे आवश्यक आहे.

प्र. क्र. 201. (1) (2) 🔴 (4)

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासमोरील संबंधित वर्तुळ पूर्णपणे छायांकित करून दाखवावा. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.