Set No. 1

18P/289/25

342

otal	No.	of	Printed	Pages	:	28

Question Booklet No.....

Total Troi of Times	-8		
	(To be filled up by the c	andidate by blue/blo	ick ball-point pen)
Roll No.			
Roll No. (Write the digi	ts in words)	(2018)	
Serial No. of OMR Ar		<u> </u>	
Centre Code No.			
Day and Date			(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the OMR Answer Sheet)

- Within 30 minutes of the issue of the Question Booklet, check the Question Booklet to ansure that
 it contains all the pages in correct sequence and that no page/question is missing. In case of faulty
 Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a
 fresh Question Booklet.
- 2. Do not bring any loose parer, written of blank, inside the Framination Hall except the Admit Card.
- A separate OMR Answer Sheet is given. It should not be folded or mutilated. A second OMR Answer Sheet shall not be provided. Only the OMR Answer Sheet will be evaluated.
- Write all the entries by blue/black ball per in the space provided above.
- On the front page of the OMR Answer Steet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, write the Question Booklet Number, Centre Code Number and the Set Number (wherever applicable) in appropriate places.
- No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) or OMR Answer Sheet and also Roll No. and OMR Answer Sheet Serial No. on the Question Booklet.
- 7 Any change in the aforesaid entries is to be vermed by the Invigilator, otherwise it will be taken as unfair means.
- 8 Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the OMR Answer Sheet by darkening the appropriate circle in the torresponding row of the OMR Answer Sheet, by ball-point pen as mentioned in the guidelines given in the first page of the OMR Answer Sheet.
- For each question, darken only one circle on the OMR Answer Sheet. If you darken more than one
 circle or darken a circle partially, the answer will be treated as incorrect.
- Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question.
 the value all the circles in the corresponding row blank (such question will be awarded zero mark).
- For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet
- 2 or, rempletion of the Test, the Candidate must handover the OMR Answer Sheet to the Invigilator the examination room/hall. However, candidates are allowed to take away Text Booklet and copy OMR Answer Sheet with them.
- 4. We candidate attempts to use any form of unfair means, he/she shall be liable to such punishment is the University may determine and impose on him/her.
- अंदिक कियों व अस्तिय आवरण-पृष्ठ पर दिये गए हैं।

(P.T.O.)

No. of Questions: 120

Full Marks: 360 Time: 2 Hours Note: (1) Attempt as many questions as you can. Each question carries 3 marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question. (2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one. 1. Determine the water horsepower of a pump discharging at a rate of 10 lps against a total head of 25 m (3) 3.3(4) 5 (2) 2.5(1) 2A plot between rainfall intensity versus time is called as 2. (3) Hyetograph (4) Isohyet (2) Mass curve (1) Hydrograph NDVI refers to 3. (1) National Digit Verification Index (2) Normalised Difference Vegetable Index

1

(3) Normalized Digitization Value Index

(4) Numerical Difference Value Index

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SPACE FOR ROUGH WORK एफ कार्य के लिए जगह

4.	Pressure plate apparatus is used for	the	measurement of	soi	l moisture tension
	up to (1) 10 bars (2) 15 bars	(3)	50 bars	(4)	100 bars
5.	To calculate the mean of the four of adopt	bserv	vations of 2, 3,	4 ai	nd 20, one shoule
	(1) Arithmetic Mean	(2)	Geometric Mea	an	
	(3) Harmonic Mean	(4)	Weighted Mear	n	
6.	Infiltration is measured by				
	(1) USWB Class A pan	(2)	rain gauge		
	(3) cylindrical metal rings	(4)	lysimeter		
7.	Which one of the following is the stream velocity?	mosi	t accurate instr	ume	ent for measurin
	(1) Surface float	(2)	H-flume		
	(3) Coshocton wheel	(4)	Current meter		
8.	A unit hydrograph consists of one to	anit	of		
	(1) surface hydrograph	(2)	flood hydrograp	ph	
	(3) unit hydrograph	(4)	direct runoff		
9.	Confined aquifer is also known as				
	(1) water table aquifer	(2)	artesian aquife	r	
	(3) semi-confined aquifer	(4)	perched aquife	r	
(34)	2				

10.	A well installed in confined aquifer	always contains
	(1) higher water level than static w	
	(2) lower water table than static wa	ater table
	(3) same water level as static water	r table
	(ii) does not yield water all	
11.	The useful moisture of a soil is equ	ual to its
	(1) field capacity	
	(2) saturation capacity	
	(3) moisture content at permanent	wilting point
	(4) difference between field capacity root zone of plants	y and permanent wilting point within the
12.	Irrigation water having an SAR valu	ue of 20 is called as
	(1) very high sodium water	(2) high sodium water
	(3) medium sodium water	(4) low sodium water
13.	Sum of all allocated benefits of a wat the project is known as	er resources project divided by total cost of
	(1) Benefit-Cost Ratio	(2) Cost-Benefit Ratio
	(3) Project Cost Index	(4) Project Benefit Index
14.	Unit of runoff coefficient in the rati	ional formula is
	(1) dimensionless	(2) mm
	(3) cm	(4) m
(34)	3	(P.T.O.)

15.	The plants start experiencing severe water stress due to physiological unavailability of water i.e., 'physiological draught' at about 1.44 bars which corresponds to electric conductivity of soil of					
	(1) 1·44 dS/m (2) 3·00 dS/m (3) 4·00 dS/m (4) 14·4 dS/m					
16.	The soil having electric conductivity less than 4 dS/m, pH more than 8-5 and exchangeable sodium percentage more than 15 falls in the category of (as per USDA Salinity Laboratory Classification)					
	(1) saline soil (2) sodic soil					
	(3) saline alkali sodic soil (4) normal soil					
17.	A cross regulator is provided on a main canal					
	(1) to minimize the amount of silt entering the branch canal					
	(2) to let maximum silt is carried into the branch canal					
	(3) for maintaining head in upstream canal					
	(4) to carry the canal across the drain					
18.	The cumulative infiltration equation is $I = 2t^{0.5}$ (I in cm, t in minutes). The instantaneous infiltration rate at 4 minutes from start will be					
	(1) 0·1 cm/min (2) 0·5 cm/min (3) 1·3 cm/min (4) 2·0 cm/min					
19.	General assumption made to study the mechanics of sediment transport is					
	(1) soil is incoherent $(c = 0)$ (2) soil is coherent					
	(3) $c > 1$ (4) $c = 1$					
(34)	4					

Flow in an irrigation channel is con	nsidered as	
(1) gradually varied		
(3) rapidly varied	(4) uniform	
Rational formula is used to determine	ne	
(1) peak rate of runoff		
(2) average rate of runoff		
(3) peak rate of runoff and time to	peak	
(4) average rate of runoff and time	lag	
Determination of Fresh and 11 Oct	D (Doc)	
Determination of Exchangeable Sodit	im Percentage (ESP) is done by me	asuring
(1) soil pH	(2) soil EC	
(3) soil bulk density	(4) soil hydraulic conductivity	
Surge irrigation refers to		
(1) applying total water quickly and	in one go	
(2) applying water in several wetting	g and drying cycles	
(3) quickly flushing out standing wa	ater from field	
(4) applying water slowly but contin	uously	
The cross-slope ditch system of drain	nage is used for drainage of	
(1) flat land	(2) ponded land	
(3) sloping land	(4) None of the above	
5		(P.T.O.)
	(1) gradually varied (3) rapidly varied Rational formula is used to determine (1) peak rate of runoff (2) average rate of runoff (3) peak rate of runoff and time to (4) average rate of runoff and time Determination of Exchangeable Sodius (1) soil pH (3) soil bulk density Surge irrigation refers to (1) applying total water quickly and (2) applying water in several wetting (3) quickly flushing out standing water (4) applying water slowly but continuation (5) flat land (6) sloping land	(3) rapidly varied (4) uniform Rational formula is used to determine (1) peak rate of runoff (2) average rate of runoff (3) peak rate of runoff and time to peak (4) average rate of runoff and time lag Determination of Exchangeable Sodium Percentage (ESP) is done by mentage in the solid percentage (ESP) is done by mentage in the

25.	Cipolettie weir ha	as side slopes of		40.0.1
	(1) 1:4	(2) 4:1	(3) 1:2	(4) 2:1
26.	Watershed shape	is evaluated by	r	
	(1) form factor		(2) compa	ctness factor
	(3) stream densi	ty	(4) shape	index
27.	The best means	for chemigation	of micronutrie	nts is
	(1) raingun		(2) drip s	ystem
	(3) foggers		(4) sprink	ler system
28.	Froude number	is the ratio of th	ne	
	(1) inertial force	to the shear for	rce	
	(2) inertial force	to the viscous	force	
	(3) inertial force	to the gravitation	onal force	
	(4) viscous force	to the gravitati	onal force	
29.	The system of lin	near equations l	nas	
		X +	2Y = 4	
		3 <i>X</i>	+6Y=8	
	(1) unique soluti	on	(2) many	solutions
	(3) imaginary so	lution	(4) No sol	ution

30.	The intensity of light received by a solar photovoltaic panel of size $2m \times 3m$ is 60 milliwatt per square centimetre. If the conversion efficiency is 5% , the output power will be					
	(1) 360 watts (2) 180 watts (3) 100 watts (4) 3600 watts					
31.	At critical condition of flow					
	(1) specific energy is minimum					
	(2) specific force is maximum					
	(3) viscous force is minimum					
	(4) total force is maximum					
32.	Well development refers to					
	(1) removal of well incrustation					
	(2) removal of fine particles from around the well screen					
	(3) well testing					
	(4) increasing well discharge					
33.	Intermediate stage between sheet erosion and gully erosion is called as					
	(1) path erosion (2) rill erosion					
	(3) micro-erosion (4) severe erosion					
34.	Deterministic model makes					
	(1) forecast (2) prediction					
	(3) guess (4) detrimental decision					
(34)	7 (P.T.O.)					

35.	Application of fertilizers with irrigat	ion is called
	(1) fertilization	(2) fertigation
	(3) ferti-irrigation	(4) irri-fertigation
36.	Cut throat flume is used for measu	iring
	(1) air flow	(2) water flow
	(3) flow of granular material	(4) None of the above
37.		cularly used to calculate the drain spacing
	in	(2) irrigated areas
	(1) humid areas	(4) sloping areas
	(3) dry areas	(4) Stoping areas
38.	The quick sand condition is created	due to
	(1) frictionless nature of soil	
	(2) low value of cohesion soil	
	(3) upward seepage force greater th	an submerged weight of soil
	(4) downward seepage pressure	
39.	Particle density and bulk density of a ratio will be	soil are 2·8 g/cm³ and 1·4 g/cm³, its void
	(1) 0.5 (2) 1.0	(3) 2·4 (4) 4·2
(34)	. 8	

(P.T.O.)

40.	The Thiessen polygon is		
	(1) a polygon obtained by joining ac	djoir	ing rain gauge stations
	(2) a representative area used for wei	ghir	g the observed station precipitation
	(3) an area used in the construction	n of	depth-area curves
	(4) the descriptive term for the shap	ре о	f the hydrograph
41.	Area under a hydrograph represents	S	
	(1) volume of runoff	(2)	volume of rainfall
	(3) area of watershed	(4)	average rate of runoff
42.	Ground water recharge by surface fi	lood	ing is primarily governed by
	(1) infiltration rate		
	(2) aquifer transmissibility		
	(3) aquifer storage coefficient		
	(4) saturated hydraulic conductivity		
43.	The conveyance of an open channel	is o	lirectly proportional to
	(1) bed slope	(2)	channel roughness
	(3) discharge	(4)	side slope
44.	Which of the term is not related to	drip	irrigation system?
	(1) Venturi (2) Grommet	(3)	End plug (4) Mole

9

45.	Soil erosion inten-	sity is expressed i	n			
		(2) m ³ /ha/y		cm/y	(4)	cm/ha/y
46.	A field measuring 6 cumec of water v	30 hectares, 40 cn vas applied for 8 he	of wours.	ater was stored What will be ap	l in '	the root zone when ation efficiency?
	(1) 70%	(2) 75%	(3)	69.44%	(4)	80%
47.	Warabandi, Shejp distribution to ac	ali and Osrabandi hieve	are	the systems of	rota	ational canal water
	(1) need based ir	rigation				
	(2) better uniform	nity in water appli	catio	n		
	(3) better equity in water distribution					
	(4) better recovery of water charges					
48.	If D ₆₀ /D ₁₀ of a so	oil is 1, the soil is	cons	sidered as		
	(1) loose		(2)	compact		
	(3) well graded		(4)	uniform grade	d	
49.	Those crops which in a soil salinity	n do not show any ranging between 4	signi 8-8 d	ficant effect on S/m are called	the	ir growth and yield
	(1) sensitive crop	s	(2)	semi-tolerant	crop	os .
	(3) tolerant crops		(4)	highly tolerant	t cro	ops
50.	The process of wa	ater erosion follow	s			
	(1) splash, sheet,	rill, gully	(2)	gully, sheet, r	ill, s	splash
	(3) rill, sheet, spl	ash, gully	(4)	sheet, rill, spl	ash,	, gully
(34)		1	0			

51.	GIS refers to						
	(1) Geological Information System						
	(2) Geographical Information System						
	(3) Geometrical Information System						
	(4) Geographical Information Science						
52.	RUSLE (Revised Universal Soil Loss I	Equation) estimates					
	(1) long-term annual soil erosion						
	(2) long-term average annual sedimen	nt yield					
	(3) average sediment yield						
	(4) None of the above						
53.	The simplex procedure is used to sol	ve general maximization problem in					
	(1) Linear Programming	(2) Dynamic Programming					
	(3) Analog Simulation	(4) Zero-one Programming					
54.	Evapotranspiration of a crop on a par coefficient is 0.8. What is the net irriga 80%?	ticular day is 4 mm, the concerned cropation requirement if irrigation efficiency is					
	(1) 3·2 mm (2) 4·0 mm	(3) 5·0 mm (4) 6·25 mm					
55.	Removal of a thin and fairly uniform runoff water is called	layer of the soil from the land surface by					
	(1) Torrent erosion	(2) Sheet erosion					
	(3) Glacial erosion	(4) Geologic erosion					
(34)	11	(P.T.O.)					

56.	In a land leveling operation cut: fill ratio is kept					
	(1) $C/F = 0$ (2) $C/F = 1$ (3)	3) $C/F < 1$ (4) $C/F > 1$				
57.	. Darcy's law is valid under condition of					
	(1) laminar flow with Reynold's number > 10					
	(2) Reynold's number < 1					
	(3) Newtonian flow					
	(4) steady uniform flow					
58.	Coefficient of storage is a property of					
	(1) confined aquifer (2) unconfined aquifer				
	(3) semi-confined aquifer (4) None of the above				
59.	Tensiometer can effectively measure so	il moisture tension in the range of				
	(1) 0·0 to 1 atm (2) 0 to 15 atm				
	(3) < 0.8 atm (4)) 15 to 33 atm				
60.	An S curve in hydrology is obtained by summing					
	(1) rainfall (2) snowmelts (3					
61.	Pumps used in surface drainage works	are of the type				
	(1) centrifugal (2) reciprocating (3) axial flow (4) treadle				
JEWAN.						
(34)	12					

62.	Drainage at a rate of 1.0 lps per hecta	are is equivalent to a drainage coefficient of
	(1) 1.00 mm/day	(2) 4·32 mm/day
	(3) 8·64 mm/day	(4) 10·00 mm/day
63.	The fluids that do not undergo strai	in rates proportional to the applied shear
	(1) Newtonian fluids	(2) non-Newtonian fluids
	(3) compressible fluids	(4) non-compressible fluids
64.	From the hydraulic efficiency point of open channel is	view, the most efficient cross-section of an
	(1) semi-circular	(2) parabolic
	(3) trapezoidal	(4) rectangular
65.	Hydrologic Soil Group-A stands for (1) low runoff potential	
	(2) moderately low runoff potential	
	(3) moderately high runoff potential	
	(4) high runoff potential	
66.	Venturi used for doing fertigation in following theorem	n mico-irrigation system working on the
	(1) Kennedy's (2) Khosla's	(3) Bernoulli's (4) Jones
34)	13	(P.T.O.)
- 1	10	(1.1.0.)

(34)

67.	Retaining walls are constructed for the purpose of
	(1) maintaining grade in ground level
	(2) controlling soil erosion loss
	(3) supporting a soil mass
	(4) storing water behind it
68.	Hydraulic drop takes place when flow passes from
	(1) super-critical to sub-critical stage
	(2) sub-critical to super-critical stage
	(3) critical to super-critical stage
	(4) sub-critical to critical stage
69.	Water storage structure in canal commands to meet water requirement of cr when canal water is not available is called
	(1) carry over storage reservoir
	(2) seasonal storage reservoir
	(3) intra-seasonal water storage reservoir
	(4) balancing reservoir
70.	Salinity problem can be controlled by
	(1) surface drainage (2) subsurface drainage
	(3) deep tillage operations (4) diversion drain

14.

transmission across a rectangular area 100 m long and 1 m height under hydraulic gradient will be (1) 10 m³/day (2) 100 m³/day (3) 1 m³/day (4) 1000 m³/da 74. In a wide open channel, the hydraulic radius is practically equal to (1) flow depth (2) flow area (3) flow width (4) wetted perimeter 75. The time of concentration of a watershed is proportional to (1) L¹-77 (2) S⁻-0-385 (3) L¹-77S¹-385 (4) S¹-385 76. Land use capability classification is primarily based on (1) soil texture (2) rainfall (3) groundwater (4) land slope	Mathematical equation used to describe saturated-unsaturated flow of water in $\operatorname{drip}\ \operatorname{irrigation}$				
 72. The line joining the static water levels in several wells, excavated throconfined aquifer, is known as the (1) cone of depression (2) piezometric surface (3) perched water table (4) hypsometric curve 73. If the saturated hydraulic conductivity of a soil is 1 m/day, the rate of transmission across a rectangular area 100 m long and 1 m height under hydraulic gradient will be (1) 10 m³/day (2) 100 m³/day (3) 1 m³/day (4) 1000 m³/da 74. In a wide open channel, the hydraulic radius is practically equal to (1) flow depth (2) flow area (3) flow width (4) wetted perimeter 75. The time of concentration of a watershed is proportional to (1) L¹ T7 (2) S -0.385 (3) L¹ T7 S 0.385 (4) S 0.385 76. Land use capability classification is primarily based on (1) soil texture (2) rainfall (3) groundwater (4) land slope 					
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 74. In a wide open channel, the hydraulic radius is practically equal to flow depth flow area flow width wetted perimeter 75. The time of concentration of a watershed is proportional to Land use capability classification is primarily based on soil texture rainfall groundwater land slope 	If the saturated hydraulic conductivity of a soil is 1 m/day, the rate of water transmission across a rectangular area 100 m long and 1 m height under a unit hydraulic gradient will be				
(1) flow depth (2) flow area (3) flow width (4) wetted perimeter 75. The time of concentration of a watershed is proportional to (1) L ^{1.77} (2) S ^{-0.385} (3) L ^{1.77} S ^{0.385} (4) S ^{0.385} 76. Land use capability classification is primarily based on (1) soil texture (2) rainfall (3) groundwater (4) land slope	lay				
(3) flow width (4) wetted perimeter 75. The time of concentration of a watershed is proportional to (1) L ¹⁻⁷⁷ (2) S ⁻⁰⁻³⁸⁵ (3) L ¹⁻⁷⁷ S ⁰⁻³⁸⁵ (4) S ⁰⁻³⁸⁵ 76. Land use capability classification is primarily based on (1) soil texture (2) rainfall (3) groundwater (4) land slope	In a wide open channel, the hydraulic radius is practically equal to				
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(1) soil texture(2) rainfall(3) groundwater(4) land slope					
(3) groundwater (4) land slope					
(o) ground					
34)	(P.T.O.)				

77.	7. A foot valve is used in a centrifugal pumping system so as to				
	(1) keep it primed				
	(2) measure the flow				
	(3) give strength at its foot				
	(4) control water flow in to pumping system				
78.	The most commonly used method for land grading calculations is				
	(1) four-point method (2) summation method				
	(3) method of least squares (4) leveling index				
79.	PIM refers to				
	(1) Program of Integrated Management				
	(2) Participatory Irrigation Management				
	(3) Pressure Irrigation Management				
	(4) Private Irrigation Management				
80.	Lands having slopes of more than 10 per cent should be cultivated only after making				
	(1) contour trenches (2) contour benches				
	(3) broad-based terraces (4) bench terraces				
81.	If the diameter of a pipe is halved, flow of water in it experiences the increase in the head loss due to friction is				
	(1) two times (2) four times (3) ten times (4) sixteen times				
(34)	16				

A linear reservoir is one in which						
(1) volume varies linearly with elevation						
(2) the storage varies linearly with the outflow rate						
(3) the storage va	ries linearly with	time				
(4) the storage va	ries linearly with	the inflow rate				
canopy factor of 0	·8 needs to be irri	gated in one hour.	ed at 5 m × 4 m with a Calculate the minimum			
(1) 4 lps	(2) 5 lps	(3) 8 lps	(4) 10 lps			
Subsurface drains	s remove					
(1) excess surface water						
(2) capillary subsurface water						
(3) subsurface gravitational water						
(4) excess runoff water from rainfall						
If the electrical conductivity of irrigation and drainage water is 0.2 mmhos/cm and 0.4 mmhos/cm respectively, the leaching requirement will be equal to						
(1) 80%	(2) 40%	(3) 50%	(4) 20%			
A circular shaped	watershed has a	Form Factor of				
(1) 1	(2) 3.14	(3) 1.57	(4) 0.78			
	1	7	(P.T.O.)			
	(1) volume varies (2) the storage value (3) the storage value (4) the storage value A drip irrigated or canopy factor of 0 pump discharge in (1) 4 lps Subsurface drains (1) excess surface (2) capillary subs (3) subsurface grave (4) excess runoff If the electrical cound 0.4 mmhos/of (1) 80% A circular shaped	(1) volume varies linearly with elevically the storage varies linearly with (3) the storage varies linearly with (4) the storage varies linearly with A drip irrigated orchard with 360 granopy factor of 0.8 needs to be irripump discharge if the evapotransp (1) 4 lps (2) 5 lps Subsurface drains remove (1) excess surface water (2) capillary subsurface water (3) subsurface gravitational water (4) excess runoff water from rainfal If the electrical conductivity of irrigated of the electrical conductivity o	(1) volume varies linearly with elevation (2) the storage varies linearly with the outflow rate (3) the storage varies linearly with time (4) the storage varies linearly with the inflow rate A drip irrigated orchard with 360 guava plants space canopy factor of 0.8 needs to be irrigated in one hour. pump discharge if the evapotranspiration is 5 mm (1) 4 lps (2) 5 lps (3) 8 lps Subsurface drains remove (1) excess surface water (2) capillary subsurface water (3) subsurface gravitational water (4) excess runoff water from rainfall If the electrical conductivity of irrigation and drainage and 0.4 mmhos/cm respectively, the leaching required and 0.4 mmhos/cm respectively, the leaching required (1) 80% (2) 40% (3) 50% A circular shaped watershed has a Form Factor of			

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(34)

			10 00 20 20000
87.	The rate of the flow of water throug	h gr	ound strata, can be estimated by
	(1) Manning's formula	(2)	Strickler's formula
	(3) Dupuit's formula	(4)	Darcy's formula
	*		
88.	Drainable water is		
	(1) hygroscopic water	(2)	capillary water
	(3) perched water	(4)	gravitational water
89.	When a canal is carried over a natura is called	ıl dra	ain at crossing, the structure provided
	(1) syphon	(2)	aqueduct
	(3) super passage	(4)	level crossing
90.	The ratio of volume of pores to the	volu	me of solid content is called
	(1) void ratio	(2)	porosity
	(3) dry bulk density	(4)	wet bulk density
91.	Gypsum can be used to reclaim		
	(1) alkali soils		
	(2) sodic saline soils		
	(3) acidic soils		
	(4) can not be used for reclamation		

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92.	Soils becoming waterlogged accompanies	panied by accumulation of salts	on the
	(1) decreased erosion		
	(2) increased erosion		
	(3) erodibility remains unchanged		
	(4) erosion becomes zero		
93.	For vertical cut, the width (W) of ben and S is the field slope	ch terrace is when D is the vertica	l interval
	(1) $W = (D \cdot S)/100$	(2) $W = (100S)/D$	
	(3) $W = 100/S$	(4) $W = S/100$	
94.	Frequency-domain Reflectometry (FI	OR) is the method of monitoring	
	(1) soil moisture	(2) salt concentration	
	(3) vapour pressure	(4) solar radiation	
95.	A drop spillway is used for		
	(1) erosion control	(2) flow measurement	
	(3) flow diversion	(4) flow regulation	
96.	Small watersheds are those, in whi	ch	
	(1) runoff is major flow		
	(2) overland flow is major flow		
	(3) base flow is major flow		
	(4) All of the above		
(34)	(4) All of the above	9	(P.T.O.,
0			

(34)	20			
	(3) unconfined aquifer (4) perched aquifer			
	(1) confined aquifer (2) semi-confined aquifer			
100.	 An aquifer bounded by a partially pervious layer and below by a layer either impervious or partially pervious is called 	er that is		
	(4) rivers do not like to run straight			
	(3) rivers are made by almighty to cover large area			
	(2) general slope of earth surface is too high to sustain uniform flow			
	(1) straight canals look good			
99.				
	(4) kinetic energy per unit time			
	(3) kinetic energy per unit weight			
	(2) kinetic energy per unit flow area			
	(1) kinetic energy per unit area			
98.				
	(6)			
	(1) hydraulic jump depths (2) conjugate depths (3) consequent depths (4) complimentary depths			
	are called as			
97.	77. Depths of flow resulting upstream and downstream of a hydraulic juthe upstream flow being supercritical and downstream flow being s	imp, wit ubcritica		

(P.T.O.)

101.	. Cavity wells with blind pipe				
	(1) do not have strainers and water enters from bottom only				
	(2) do not have strainers and water enters from top only				
	(3) have strainers and water enters from	(3) have strainers and water enters from both bottom and sides			
	(4) do not have strainers and water en	ters from both bottom and sides			
102.	. The benefit that can be quantitatively r	neasured in monetary terms is called			
	(1) intangible benefit (2)	tangible benefit			
	(3) project benefit (4)	indirect benefit			
103.	Relationship between discharge and deptuber	th of flow in an open channel is unique			
	(1) Froude's number = 1 (2)	Reynold's number = 1			
	(3) Poisson's number = 1 (4)	Mach number = 1			
104.	 If two centrifugal pumps of discharge cap m each are operating in series, we m 				
	(1) discharge of 20 lps with discharge	head of 10 m			
	(2) discharge of 20 lps with discharge	head of 5 m			
	(3) discharge of 10 lps with discharge				
	(4) discharge of 10 lps with discharge	head of 5 m			
105.	5. Isobath maps indicate				
	(1) areas affected by high water table	problems			
	(2) flow of water				
	(3) extent of salinity				
	(4) line joining places having equal dep	oth of water			

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106.	Anisotropicity of a soil is determined from directional difference in				
	(1) soil texture				
	(2) soil structure				
	(3) infiltration rate				
	(4) saturated hydraulic condu	activity			
107.	Curve number represents				
	(1) rainfall property	(2)	watershed feat	ture	
	(3) runoff trend	(4)	stream flow		
108.	Annual maximum floods are	most likely t	to fit in		
	(1) Normal distribution	(2)	Beta distributi	ion	
	(3) Gamma distribution	(4)	Gumbel distril	bution	
109.	In turbine pump, the impelle	r is surroun	ided by		
	(1) plunger	(2)	diffuser vanes		
	(3) volute casing	(4)	pump bowl		
110.	The quantity n as used in Ma	anning's forn	nula		
	(1) is considered dimensionle	ss (2) l	has the dimen	sion of L	
	(3) has the dimension of $L^{1/3}$	(4) l	has the dimen	sion of $L^{1/6}$	
111.	10 cm of irrigation is applied t as percolation loss. The applie			off loss and 2 cm	goes
	(1) 90% (2) 80%	(3) 7	70%	(4) 60%	
(34)		22			

112.	Corrosion of tube	narge of sand with water ighly alkaline water					
	(1) reduced disch	reduced discharge from the tube well					
	(2) excessive discharge of sand with water						
	(3) discharge of highly alkaline water						
	(4) more noise of pump						
	## (## ## ## ## ## ## ## ## ## ## ## ##						
113.	the dimensions of K can be described by						
	(1) LT^{-1}	(2) T ⁻¹	(3) L^2T^2	(4) dimensionless			
114.	A practical method of reducing sheet erosion from sloping lands is						
	(1) keeping the la	eping the land fallow ming on contour strips astruction of small reservoirs					
	(2) farming on contour strips						
	(3) construction of small reservoirs						
	(4) using plastic sheet covers						
115.	Maximum energy use in irrigated crop cultivation is in						
	(1) tillage		(2) irrigation				
	(3) harvesting		(4) sowing/plant	ing			
116.	Effect of climate of	ect of climate change is showing					
	(1) increased number of rain events						
	(2) increased rain intensity and decreased number of rain events(3) decreased rain intensity(4) decreased rain intensity and increased number of events						
34)			23	(P.T.O.)			

				: saveed by			
117.	. Groundwater contamination from non-point source pollution is caused b						
	(1) leaching of nutrients and pesticides						
	(2) groundwater exploitation						
	(3) aquifer rock weathering						
	(4) climate change						
118.	Bulking of soil re	ring of soil refers to its increase in volume due to					
	(I) ploughing	(2) freezing	(3) wetting	(4) drying			
119.	The numerical value of hydraulic exponent for critical flow computation in rectangular channel is						
	(1) 3	(2) 1	(3) zero	(4) 2			
120.							
	(1) managing pumping and recovery times(2) pumping after full recuperation(3) making the well circular						
	(4) cleaning the well						

SPACE FOR ROUGH WORK

रफ़ कार्य के लिए जगह

अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा ओ॰एम॰आर॰ उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली/काली बाल-प्वाइंट पेन से ही लिखें)

- 1. प्रध्त-पुस्तिका मिलने के 30 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई पृष्ठ था प्रश्निक हो है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण पश्नपत्र की दूसर पुस्तिका प्राप्त कर लें।
- 2. परोक्षा भवन में *प्रवेश-पत्र* के अतिरिक्त, लिखा या सादा कोई भी खुला कागज साथ में न लावं।
- 3. ओ॰एम॰आर॰ उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा ओ॰एम॰आर॰ उत्तर पत्र नहीं दिया जायेगा। केवल ओ॰एम॰आर॰ उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
- 4. सभी प्रविष्टियाँ प्रथम आवरण-पृष्ठ पर नीली/काली बाल पेन से निर्धारित स्थान पर लिखें।
- 5. ओल्एम०आर० उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये यहां को गाड़ा कर दें। जहाँ -जहाँ आवश्यक हो वहाँ प्रशन-पुस्तिका का क्रमांक एवं केन्द्र कोड नम्बर तथा सेट का नाया उचित स्थानों पर लिखें।
- 6. भेंशणगरआर० उत्तर-पत्र पर अनुक्रमांक संख्या, प्रध्न-पुम्तिका संख्या व सेट संख्या (वटि काई हो। तथा पान पुम्तिका पर अनुक्रमांक संश और ओल्एमल्आर० उत्तर-पत्र संश की प्रविष्टियों से उपस्तित्वन की अनुमति को लि.
- 8. पश्च-पृथ्लिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपकों आंग्रेग्स्ट अंग्रेग्स्ट उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को ओंग्र्स्ट अरु उत्तर-पत्र के प्रथम प्रश्न पर दिये गये निर्देशों के अनुसार पेन से गाड़ा करना है।
- 9. पत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त की गाड़ा करें। एक से अधिक वृत्ती का गाटा करते पर एक वृत्त की अपूर्ण भरने पर बह उत्तर गलत माना जायेगा।
- 10. ध्यान दें कि एक बार स्थाही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रध्न के उत्तर नहीं देना चारण हैं, जो सम्बन्धित पंक्ति के सामने दिवें गये सभी बुक्तों का खाली छोड़ दें। ऐसे प्रश्नों पर शुन्य बन्द दिव ज़लेल
- 11 ंफ कार्य के लिये प्रश्त-पृथ्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग कर,
- 12. परीक्षा की समाप्ति के बाद अभ्यर्थी अपना ओल्एमल्आरल उत्तर-पत्र परीक्षा कक्ष/हाल में कक्ष निरीक्षक को सांप दे उत्तर उ अपने साथ प्रश्न-पुस्तिका तथा ओल्एमल्आरल उत्तर-पत्र की प्रति ले जा सकते हैं।
- परीक्षा समाम होने से पहले परीक्षा भवन से बाहर जाने की अनुमित नहीं होगी।
- यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का की, का होगा/होगी।