DIRECTORATEOFGOVERNMENTEXAMINATIONS

HIGHERSECONDARYFIRSTYEARPUBLICEXAM.APRIL-2023

AGRICULTURALSCIENCE – KEY(ENGLISH VERSION)

TOTALMARK

PART I (ONEMARK)

ChoosethecorrectAnswer **15x 1 =15**

Qn No.	Code	Answer	Marks
1	a	Dr.VergheseKurien	1
2	d	Weather	1
3	d	Udhagamandalam	1
4	b	Cardamom	1
5	c	GaradenLand Cultivation byIrrigation	1
6	b	CountryPlough	1
7	d	Seed	1
8	a	Coconut	1
9	b	Urea	1
10	c	Potash	1
11	c	SismicCS	1
12	b	Red rotofPaddy	1
13	d	Gibrellin	1
14	c	Photograph	1
15	a	BioflocTechnology	1

IIAnsweranyTen: Qn No.28 - compulsory		
QnNo.	**Answer**	**Marks**
16	**GreenRevolution:-**	3
	➢ To increase the food grain Productioninin India	
	➢ It wasintroduced in 1967 –68	
	➢ DrM.S.SwaminathanistheFatherofGreenRevolutioninIndia	
17	**Disastermanagement:-**	3
	➢ DisasterManagement refersthe conservativesoflivesandpropertiesand also to attainthe self sufficiencyin Risklevel.Precaution should be takento avoiddangeroussituation(eg.,)Cyclone,Earthquake,Flood,Fami	
18	**AcidicSoilReforming:-**	3
	➢ Toput any one of the followingand ploughthe soil.LimeStone, CalciumOxide, CalciumHydroxide	
19	**ThreeTypesofTillage:-**	3
	(i)Top level- Primary Tillage (eg) Kambu (ii) Mediumlevel -Secondarytillage (eg)Vegetables (iii) Micro-level- tillage (eg.)gingelly,Ragi,Greens	
20	➢ ThefollowingtestsareconductedtoidentifytheMicroorganismaffectedseeds(Fungus,BacteriaandVirus) (i) ELISA - Enzyme linked Immuno Sorbant AssayELISA – (ii) PCR -PolymeraseChainReaction (iii) RFLP - RestrictionFragment LengthPolymorphism,	3
21	**ImportanceofIrrigation:-**	3
	➢ To increase the growth ofthe Plants	
	➢ Tocontrol thesoilhardening	
	Functioningof Physical,Chemicalandbiologicalactivities in the soil	
	Todissolvethenutrientsinthesoilandgiveenergyto plants	
22	**UseofPotassium:-**	3
	(i)Toincrease the good qualityoftheProducts	
	(ii)Helpsto reducethedamagesbyinsects and diseases	
	(iii)Helps to drought Resistant	

23	**IntegratedWeedControl** Integrating the use of Cultivation methods like manual ,Chemical and Biological methods to control weeds to avoid the economic threshold level	3

24	**EndemicInsects:-**	3
	It will occur in all seasons of cultivation and cause damages to the plants but gives low level loss(eg)Riceleafroller,Groundnutleafminer	
25	**DecorativePlants:-(Ornamental Plants)**	3
	➢ Powerymildew,LeafSpot,Wilt,leafrott,rootrott,tenderrott	
26	**CalculateNetIncome:-**	3
	It iscalculatedbyTotalIncomeofthefarmerand deductionofcultivationcost Net Income = TotalIncome -TotalProductionCost	
27	**Decayingoftail,Finrott:**	3
	Part of the flesh and sour occurs in the flesh	
	➢ Scalesinjuredandthefishlostthe lusteringandalsonotstandinthewater	
	➢ The disease is causedbybacteria	
28	**BenefitsofeatingMilletsandCereals**	3
	➢ Protectsfromdiabetes,cancer,	
	➢ Resistancefromthe Heart Diseases	
	PART III(5 MARKS)	
IIIAnsweranyFive:	**QnNo.35 - compulsory**	
29	➢ Ithelps to plan Irrigationschedule	5
	➢ It provides the definite cropproduction	
	➢ 'It protects the crops fromPest and disease less	
	➢ It helps to decide interculture practices in time	
	➢ It provideswaytodo harvest andpost harvest techniques	
30	➢ Ithelps to plantswithstand inmedium	5
	➢ It providesthenutrientsforplant growth	
	➢ It provides aeration to root respiration	
	➢ It saveswater for the plant growth'	

	➢ It is a house for soil Microbes	
31	➢ Becauseofshortage oflabour, thefarmersareunabletocomplete the agriculture operations	5
	➢ Becauseofburden ofwork, literateyoungpeoples areshytoinvolveinagriculture work	
	➢ Due to easyavailabilityofworks in urban, agriculturelabours migratefromvillage	
	➢ Fromland preparationto harvest, Machines can do allworks/ operations in fastmanner	
	➢ It providesskilledworkers ins stipulatedtimewhichleads toincrease the crop yield	
32	(a)**CompleteMetamorphosis**	5
	Female adultinsect has layegg.From the egg,larva will emerge,Afterseveral physicaltransformations itwillbecomeaPupalstage. AfterseveralphysicaltransformationPupabecome ideal adultone(eg)Butterfly, Beatle, Housefly,Honeybee	
	(b)**IncompleteMetamorphosis**	
	Female adultinsect has layegg.From the egg,idealadultyoungonewillemergewithout developedwings.. Afterseveralphysicaltransformationsit become developed adult withwings.(eg)Grasshopper,termites,Leaf mites.	
33	➢ Seed treatment withfungicidewillprotect the spread Of disease.	5
	➢ FungicideSprayonCropplantwillcontrolthediseases(eg) Carbendazim	
	➢ Toprotectdiseasedplantsandinfectedproducefromoneplaceto otherplaceandisolatethemwillhelptocontrolspread ofdisease. This is called“QuarantineLaw”	
34	➢ Fishproteinmix,Fishpaste,Fishinsulin,Fishburger,FishWhiteembryo,FishOil,FishCodliverOil,Eralbread,FishSalad,Fishbread, DryFish,SuraWings,FishSeaval/Waffles,MeatandMeatrelatedproducts.	5
35	➢ Sowthe seeds inwellploughedlandin a evenlyand closeit(eg) Gingelly, Coriander	5
	➢ Ina RowSowingmethod,useSeed drillers toSow(eg)Sorghum/Cholam,Groundnut	
	➢ Dipple/ Plant the seeds in a recommendedspace anddepth (ex)Redgram	
	➢ Transplantingthe Seedlingsin main field fromnursery(ex)Paddy,Tomato	
	➢ UseVegetative Propagation methodforAsexual Plant	

PARTIV		
Answerthefollowing		
QnNo.	**Answer**	**Marks**
36 (A)	IndianAgriculturalResearchInstitute.	10
	ItisunderthecontrolofCentralGovernment, andEducation	
	DepartmentIn16thJuly1924	
	Functions:-	
	➢ Integratingthe AgricultureEducationandResearch Functions	
	➢ AgricultureEducation infacultyofHorticulture, Fisheries, Animal Husbandryetc.,	
	➢ UnderthisInstitute,Thereare	
	65 ResearchCentres,	
	14 NationalResearchCentres,	
	6 NationalBureauof headQuarters	
	731 KVK(KrishiVigyan Kendra)	
	➢ Itisa biggestInstitution	
	TNAU(TamilNaduAgriculturalUniversity)	
	➢ UnderthecontrolofICAR	
	➢ Firstintroduced asa agriSchool in Chennai(Saidhapettai)	
	➢ AgriCollegein1906at Coimbatore	
	➢ In1971Itbecome AgriUniversity	
	➢ In1989VeterinaryCollegeandResearchInstitute	
	➢ In2012 FisheriesCollege andResearch Institute	
	Functions:-	
	➢ ToincreasethefoodProducts	
	➢ IntroducenewtechnologiestotheFarmers	
	➢ It Carryout toproduce AgriGraduatesbyDistance Educationand RegularCollege.	
36 (B)	**BreakingofSeedDormancy:-**	10
	➢ **Removal ofSeedCoat:-**ByMachines, Chemicalseg. Pulses:	
	➢ **Heat::-**On heatingtheseedsbyHigh andLowtemperature Eg-PaddySeedsMustardSeeds	
	➢ **Light:-**No germinationwithout lighteg.,Lettuce Seeds	
	➢ **WaterWash:-** Seedsshould be washed bywatereg.,CorianderSeeds	
	➢ **GrowthHormones**Use of Chemicals and Hormonesto breaktheseeddormancyeg., TomatoSeeds	
	Treat with 0.2% PotassiumNitrate	

37 (A)	**Disesases causedbyMicro–Organism (Plants)**	10
	➢ **Fungus :-** NoChlorophyll, doesnot make food on itsowndeaf spot, Rust, Willo, dampingoff,downymildew,powderymildew,egPaddyleafsport	
	➢ **Bacteria :-**A largegroup ofsinglecellmicroorganismverysmallthingsCausediseasesin Plants-Bacteria dealblight inPaddyBlack warm in Cotton Plant	
	➢ **Virus :-** A small Micro – organism, it cause disease inhumanand Animals,also Plants. Eg Bananabunchytop,VeinclearinginBhendi,Leafmosaic in Pulses.	
	➢ **PhytoPlasma:-** inhabitatinglikeBacteria,ParasiteVirus,Charactor,it cause diseasesin plants.Eg. Phyllodyin gingelly,grassyshoot – sugar	
	➢ **Nematodes:-**Not visible foreyes. Thread like parasite Organism.ItcausesdiseasesinPotatoandPaddy Eg: Golden Nematode in Potato,Root Knot nematode in Paddy	
37(B)	**GovernementSchemes**	10
	➢ CentralandStateGovernmentIntroducedseveralschemeforAgriculture	
	➢ NationalAgricultureDevelopmentScheme	
	➢ ItisforPaddy, Pulses, OilSeeds,Smallmillets,Soilwealth,cultivatingpractices	
	NationalFoodProtectionScheme	
	➢ Pulses,Cereals	
	➢ OilSeed Crops, National Palm treeScheme	
	➢ Micro –Irrigation Scheme - PM	
	➢ NationalHorticultureScheme	
	➢ Development ofIntegratedHorticultureScheme	
	➢ PM'sCrop Insurance Scheme	
	➢ National "Aysh" scheme - Medicinal Plants.	
	Co-OperativeFarming	
	➢ IthelpsFarmersInterest	
	➢ Ithelps theFarmersto integrate asa groupmanufactures providingmachinestoproduce moreproducts	
	➢ It helps the Farmers to increase –Profitable Products	
	➢ Ithelps theFarmerstosaletheProductsin RegulatedMarketsandWeeklymarkets(UzhavarSandhai) Daily	

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