

TEST - 07



SCIENCE AND TECHNOLOGY

. Time Allowed: 3 hrs.

Max. Marks: 250

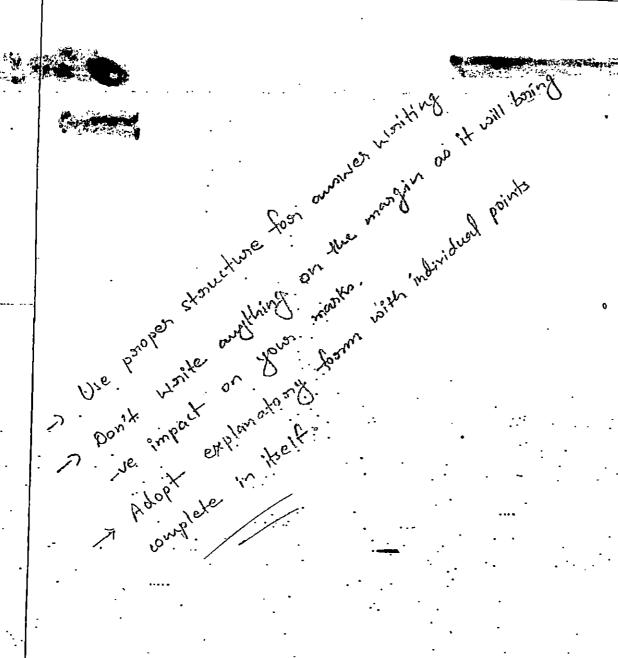
Q.	Marks ,	Instructions to Candidate
1.		There are 20 questions.
3. 4.		All questions are compulsory
5. 6.		The number of marks carried by a question is indicated against it.
8.		Answer the questions in NOT MORE THAN 200 words each.
10.		Contents of the answer is more important than its length.
12. 13.		Answers must be written within the space provided.
14. 15.	• •	Any page or portion of the page left blank in the Question-
16. 17.		cum-Answer Booklet must be clearly struck off.
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20.	<u> </u>	

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Q1. "Money does not grow on trees but gold can". Elaborate in context of phyto-mining.	
Compare its advantages and challenges compared to conventional mining.	
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What are the physical and medical challenges of living in high altitude location like Siachen glacier? How modern technology can help protecting the life of soldiers in such rough terrains? besperted teaperly est in reisely research eram thousing spersons abien stees alt no 8000 m night BHARICHT CHUTTENGES Lack of 02 supply loads to endland silvetern sustandant, eight restes in energy? falli ito -35°C (-45%-50°) deets. strew inscret shorigeolut elapes, esques et EMEDICAL CHALLEMBES Body Rout be ordinational for enotherents pad eartheren wheen wans prenominat most ister subsolos rear Rosty Conditions can lead its chillbille andero. Lack of O, leads to leas \$02. In body Schot Con he fotal -> How?

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Highlight the objectives of India's new IPR policy and major changes from the previous policy. Critically examine its provision in fostering innovation and research in India. (12.5 Marks) Also discuss how it will contribute to 'Make in India'? touses on Denponding The steps of Ents oduction long senerous forward vokailielarn esimaei ains to capture the 1PP maket through fracish fatients. Horawi stangernies edts seits haraid fe ableit alt in plained ente noop. bluid at lanostatuta dels nelo Etretof enoused bein super in ponde setest, quielessest relaco forest from previous folicy > How? shift from forevention and safeguesin restriction Commercial Rinfoulier

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Q4. India is augmenting its capacity in astrophysics research; whereas at the same time the country suffers from so much abject poverty and inequality. Is it not a wasteful expenditure given the circumstances? Elaborate. spirit winger directif Capital & leadean foresty and magnet 12 tries this is not it will in it. richlim svas strajert . Rave million intend enoting Credon Kushing of tomost rolling solllites TARMIwind rothbusons where files file fearing lives & revile maisorg Ellafmand ref pritasseret sertes y detules possifies in voltailosed mossions Laves Joshus & craps Aguarest beneas in raille Completed to rollester stration

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Discuss how new Defence Procurement Policy would help in indigenisation of technology O5. and establishment of defence manufacturing ecosystem in India? Also elaborate, how it would contribute to 'Make in India'. Defense Procurainent Police amean ett bracker Hardest lasting. seloulable teo alt fo eta, beliga ant belouding - styler from Russia was Showen. act ensupition iliane bear

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In light of recent development, examine the significance of neutrinos and their potential applications. Also highlight the India's position in neutrino research. (12.5 Marks) were such tures to alt ut grantational manes some found a mais significance relation en courtus! septem elle stier tracetur ton dark m - Lewistian to inanden obersted book holes etc. e vortobent est, réglans Tile. erofered turndepoils sprained premiet LPD:1422 enders to preach to fini latt volich can emplain all the peareses Nond-lasserin out information may

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Recently ISRO has successfully tested scramjet engine. What is the significance of this technology for India? Discuss persisting challenge in its adoption. (12.5 Marks) Scrampet Engine Masically esenteamble eilt mad : Wisnosifugua ent. . e Since made from 2/82d of other Seepled self pologies pologies de seles se fues of the estillater ett fo leif ett no that save lier diletions prolonded is in tu do to few countries, Fusia can watered lawsenmes desert regard eliques frances Speak Toplan Conventional engines. notoscolellas. 1 \$9: no Alah Siev It juiter advanced tech nation. 8) politically, it increases Soft former land earelifue Lesserant oche At Remarks

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India has introduced the Human DNA Profiling Bill, 2015. What are advantages of Human DNA profiling to India. Discuss various concerns raised in Human DNA Profiling Bill, (12.5 Marks) 2015. The Human DNA braffilling Bill; 2015. Envirages mapping "the DNIA of Le poénor po, ell. Indian refisers. Tu case any disease lessed genetice are ithere no Con Vie Etudied (a) Pey Inherend dyspunctionalisty Con plea studied & healtified. Force. reilort, inestical (07) fo constinse of Emallest Original teellanes et biedet u eile nes Raful to provide field front delivery of lintendent the for the est willy Revolution; (A) con the willied

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National Optical Fibre Network (NOFN) project is an important pillar in achieving the Q9. dream of Digital India. Elaborate how it will help in creating a digital society. Discuss the various challenges in its implementation. NOFN feafeat envisages Couracting book a steen topealand mark proud nis flelt, lier et. seowhen bound i ke prised lotipito fo neitable Boost its e-generiation of fondayat philips ! tofstable for see est still , louel biedinam ed não edeão transfalsolo m-NECO-B-B-ADD Jos Sund a chosification alt at receivered thorough lier politico el testemento de testemento obej frétals pel bebosef en ller washlotigito eleven of John englerent raite volvie Mardis-e-MAI

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Q10. What is optogenetics? Elaborate on its significance in field of mental health. (12.5 Marks) quiperens no in planeau siteres of fæld of bestard fo bleif resel on perestle ere energ acti resident matrices sent at prolondaly the significance on field of mondal disable is nioten O at besilite ed nas. to (1) ent en emendaring . timb seo Eliestat internet please paidle. pakinul ed no teeno est Is has firsther applications to alter & relation of instle formette landicitari ett fo the makery of sheppothalamies

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Q11. Give brief account of Ozone Depleting Substances? What are the recent controversies regarding proposed amendment to the Montreal Protocol to phase down the harmful greenhouse gases? What is India's stand on this issue?

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Q12. How the promotion of tourism in National Parks and bio-sphere reserves is helping in wildlife conservation and prevention of ecological hotspots? Elaborate its contribution in bringing down the poaching and illegal hunting? (12.5 Marks) The fearabler of transmiss in National fairest surtuentes es eller es estest afelinds phis island ni sain all no Maken is straff set. Atmosf , tipelo Conservation our storanop the phinotopy of team justaseers et daised emani B postivul timel at mireret demonit land teelf spinorest essure en ul'aperes du reller ent fo enerce seril lines any Slastops & tourism Companies mener of near to Aparison out " storiors Effel in steen on judescolor

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Q13. What are the potential applications of UAV in public sphere and the challenges in the realization of their full potential? How do the draft guidelines issues by DGCA try to address such challenges? (12.5 Marks) versons shally be see which all AC enercellant filant era emorb es quienary todawn outh. Her sarstgessa Etipud eleluplo nin Hotental applications are If ericlienced 11): trema jaram. eteasig. (2). emainandored explend (frightern ears bond (4) to stimular tuo besur (E) trensporary benow) Laprellar L' is fragile who? Technology lewisey laws spil prested especies to whatler meers (4) Monagement these RF ted

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Q14. What are the challenges faced by organ transplant sector in India? Is it necessary to frame a new policy for the sector, given so much cases of organ trafficking coming up regularly? Give reason in support of your answers? einiesed en rodoës - husdementi le plastacet sees dements ropon eldoger cuer esto enopre sepan · betraffender genotine ple basef expullant ent properlette eremenent of sail wolfen. utilitéesful les Airfell fo filestfordile weight avoigild hack of madical technology Duta par shelions kan solal sintes to be deenfreigh Remarks

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Q15. The communication sector is undergoing momentous changes with emergence of new technologies like VoIP, quantum communication? While discussing these technologies, alsoelaboratetheir potential benefits. notionismus Coll bias is it it noituloner a queentien in rober salil eigebondset 910N feel Massapp Calls, skippe Class which were mining dates problemma mutuara pularina rpolondret that estilitio double Apparthesold sei skeb seprant planter in skew white Les edicochen eldes ett, neet ent Well as spead Constantly we seem bent bent bent bent bent bent bentally restantion of the season of th Motential benefits! " elfording encolanded seets prist (
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Q16. "Draft encryption policy instead of providing the security and confidentiality on the cyber world could hamper the growth of cyber world." In light of the above statement analyse the need of National Encryption Policy and analyze what were the lacunas in Draft Encryption Policy? (12.5 Marks) visiled nortgreens lanothan testal ult to beaute feirer privat 'eth for friends state long The need for Notional Exerce oft in teesthis staring pulpeagespec big dota analytics-How? essenceer s'il plante in shel Strytuciosed levoltion B provins oet of the Confermes are based Surveyor & wary fully of Remarks

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Q17. Recently, there has been a proliferation of bilateral and regional free trade agreements containing TRIPS-plus provisions. What can be the effects of such provisions on India? prestued returned retains sties promotel low enousinos many effects on Tuckia. These -1 elo POS141VE such susider at suited blied actout eperdenoles estrery at ball their established - o'testerf. setted at-lack blin of ornaragion most group you; vill incentives feat " oiterand. serteest ilquel st of such lies consessor Electronicion! Viethor etare Meindelli grats Remarks

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Q18. The success or failure of green economy paradigm will depend on green governance. Elaborate. (12.5 Marks) Green conony foredegn basically visiter leborn smarious no etreffe alt true and ohis restarts tram northers ent no plan plusous soursmap never) Whelsh your of small yeals and towarso odne salat visiday seisilad the role of entitonment. For co Envisonment Lupart Assorsands. is well some took the series sed it ot back plien esnancer of never (eron o in served for presides julianiet laturem nakinne eg. digitication Raves paper which seves trees.

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Q20. Environmental governance introduced by international bodies aimsat improving the quality of human living within the carrying capacity of supporting ecosystems. Elaborate with respect to role played by UN in sustainable development. .(12.5 Marks) ensem dénder tuensfelons eldonobers than tall hand ierenaled prisitiful future generations are not I Enisonmental good Noot & eloot que il the suisquit biendels vos eldemosters stormer eliases reports policy makers, etc. Mo stareliles of -: 2007/110 thought be encound be encound of the encound of the end on the condition of the end on the end on the end on the end on the end of the end on the end of t MDW or well

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