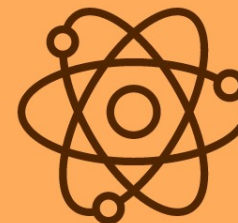


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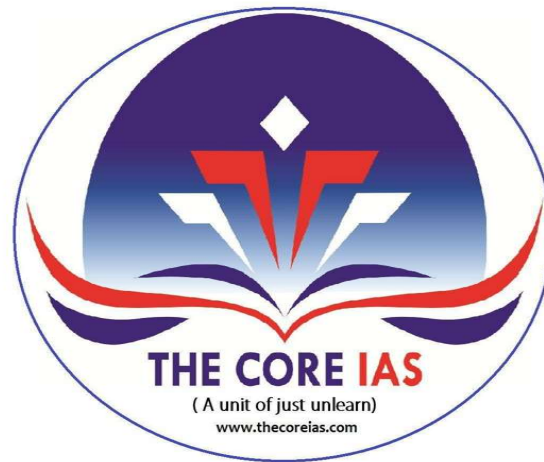
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3C 279



- Part of Virgo Constellation
- Object of very high luminosity found in the centres of some galaxies and powered by gas spiraling at high velocity into an extremely large black hole.



QUASAR



-
- Astronomical object of very high luminosity
 - Found in the centres of some galaxies
 - Powered by gas spiralling at high velocity into an extremely large black hole
 - live only in galaxies with super massive black holes

- A 'black hole' is a body in space which does not allow any radiation to come out. This property is due to its: *[2000]*
 - (a) very small size (b) very large size
 - (c) very high density (d) very low size



‘Black hole’ is a

- (a) huge black star which has zero acceleration due to gravity on its surface
- (b) star which has moderate acceleration due to gravity on its surface
- (c) star which has collapsed into itself and has large acceleration due to gravity on its surface
- (d) star which has collapsed into itself and has zero acceleration due to gravity on its surface



Recently, scientists observed the merger of giant 'blackholes' billions of light-years away from the Earth. What is the significance of this observation?

- (a) 'Higgs boson particles' were detected.
- (b) 'Gravitational waves' were detected.
- (c) Possibility of inter-galactic space travel through 'wormhole' was confirmed.
- (d) It enabled the scientists to understand 'singularity'

Acceleration, Reconnection, Turbulence, and Electrodynamics of the Moon's Interaction with the Sun



Artemis: By NASA

Why Go to the Moon?

- With the Artemis program we will:
- Demonstrate new technologies, capabilities, and business approaches needed for future exploration including Mars
- Establish American leadership and a strategic presence on the Moon while expanding our U.S. global economic impact
- Broaden our commercial and international partnerships
- will send astronauts aboard the Orion spacecraft

BACILLUS CALMETTE–GUÉRIN



Live Bacteria

Adaptive Immune System

UNIVERSAL IMMUNISATION PROGRAM



- 1978: 'Expanded Programme of Immunization' (EPI)
- 1985: 'Universal Immunization Programme'
- 1992: Child Survival and Safe Motherhood
- 1997: National Reproductive and Child Health Programme
- 2005: NRHM

12 VACCINE



- Nationally against 9 diseases - Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Hemophilus Influenza type B
- Sub-nationally against 3 diseases - Rotavirus diarrhoea, Pneumococcal Pneumonia and Japanese Encephalitis; of which Rotavirus vaccine and Pneumococcal Conjugate vaccine are in process of expansion while JE vaccine is provided only in endemic districts.

Which one of the following antimicrobial drugs, is suitable for treatment of both tuberculosis and leprosy? [1995]

- | | |
|------------------|---------------------------|
| (a) Isoniazid | (b) P-aminosalicylic acid |
| (c) Streptomycin | (d) Rifampicin |

Consider the following diseases:

1. Cholera
2. Tuberculosis
3. Filaria
4. Typhoid

Which of the above diseases are caused by bacteria?

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



Statement I : A person may suffer from tuberculosis if she/he frequently visits crowded place.

Statement II : Bacteria of tuberculosis spread through droplets by sneezing or coughing.

Which one of the following statements is not correct?

- (a) Hepatitis B virus is transmitted much like HIV.
- (b) Hepatitis B, unlike Hepatitis C, does not have a vaccine.
- (c) Globally, the number of people infected with Hepatitis B and C viruses are several times more than those infected with HIV.
- (d) Some of those infected with Hepatitis Band C viruses do not show the symptoms for many years.

HACK THE CRISIS



- An Online Hackathon to find working solutions for overcoming COVID-19 pandemic. This hackathon is part of a global initiative and is being organised by 'Hack A Cause - India' and 'FICCI Ladies Organization Pune' and supported by Ministry of Electronics and Information Technology.
- The aim of this hackathon is to strengthen fight against COVID-19.

GEO-FENCING



- Geo-fencing allow an administrator to set up triggers so when a device enters (or exits) the boundaries defined by the administrator, an alert is issued
- Active :Aarogya Setu
- Passive:

AAROGYA SETU



Consider the following statements with respect to the *Aarogya Setu Application*.

1. The app is built through public private partnership assesses them the risk for their catching the Corona Virus infection.
2. It will calculate this based on their interaction with others, using cutting edge Bluetooth technology, algorithms and artificial intelligence.
3. The app is available in 22 languages of 8th Schedule of the Constitution and has been launched on both Andriod and iOS platforms.

Which of the following statements is/are *correct*?

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



Government Of India

The Government of India has launched Aarogya Setu, a mobile application aimed to connect health services and we the people of India in our combined fight against COVID-19. The App will augment GoI's initiatives in proactively reaching out to and informing the users the potential risk of infection, best practices and relevant medical advisories pertaining to the containment of COVID-19 pandemic. The app has been developed through Public Private Partnership under guidance of NIC.

The App is privacy-first by design and currently available in 11 languages. The App has highly scalable architecture and is ready for pan-India roll out from Day 1. With Aarogya Setu, let us take a step forward to protecting ourselves and our family & loved ones.



Aarogya Setu

में सुरक्षित | हम सुरक्षित | भारत सुरक्षित




https://play.google.com/store/apps/details?id=nic.goi.aarogyasetu&hl=en_GB



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GRAVITY RECOVERY AND CLIMATE EXPERIMENT FOLLOW ON (GRACE-FO) SATELLITES



- NASA-GERMAN
- **Launched in 2018**
- successor to the original GRACE mission which orbited Earth from 2002-2017
- Surface Anomaly
- Recent : Groundwater MAP

RAPID ANTIBODY TEST



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Consider the following statements regarding the *Reverse Transcription Process*.

1. This process is catalysed by the RNA-directed DNA polymerase enzyme which is known as Reverse transcriptases.
2. The synthesis of DNA from an RNA template is called as reverse transcription.

Which of the statement(s) given above is/are *correct*?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

HYDROXYCHLOROQUINE

- India's installed capacity of hydroxychloroquine active pharmaceutical ingredient: **40 tonnes**
- Capacity translates into **200 million** tablets (200 mg strength each) a year
- Domestic consumption is around **24 million** tablets a year (excess capacity, but need to factor in likely increase in domestic demand: IDMA)
- The country's overall pharmaceutical exports are worth **\$19 billion**



MADHUBAN GAJAR



- **Biofortified carrot**
- contains high β -carotene and iron content.
- Developed by farmer scientist



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Which of the following statements is/are correct regarding Smart India Hackathon 2017?

1. It is a centrally sponsored scheme for developing every city of our country into Smart Cities in a decade.
2. It is an initiative to identify new digital technology innovations for solving the many problems faced by our country.
3. It is a programme aimed at making all the financial transactions in our country completely digital in a decade.

Select the correct answer using the code given below :

- (a) 1 and 3 only
- (b) 2 only
- (c) 3 only
- (d) 2 and 3 only

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