



# THE BYTE

NOVEMBER 2020  
EDITION

**Department of Computer  
Science & Engineering**



*IMS ENGINEERING  
COLLEGE, GHAZIABAD  
NAAC ACCREDITED WITH GRADE - 'A'  
APPROVED BY AICTE, NEW DELHI &  
AFFILIATED TO DR. A.P.J. ABDUL KALAM  
TECHNICAL UNIVERSITY, LUCKNOW, U.P.*

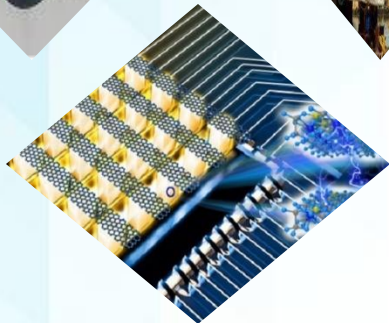


# IMS ENGINEERING COLLEGE

NH-24, Adhyatmik Nagar, Near Dasna,  
Distt: Ghaziabad. Uttar Pradesh-201009

Nov-2020 Edition  
The Byte Magazine

## CSE DEPARTMENT



### CONTENTS

- ❖ About Byte
- ❖ Vision Institute
- ❖ Vision Mission Department
- ❖ Program Education Objectives
- ❖ Program Specific Outcomes
- ❖ Executive Council
- ❖ Editorial Board
- ❖ Message from HOD
- ❖ Message from Editorial Board
- ❖ Technical Article
- ❖ Literary Article
- ❖ Quiz
- ❖ Current Affairs
- ❖ Placement

[thebyte.cse.imsec@gmail.com](mailto:thebyte.cse.imsec@gmail.com)

**STAY HOME  
SAVE LIVES**

*This is the monthly e-magazine released by our computer science department for sharing information and updating students with information useful to them and helpful in their development*

# INSTITUTE

## **Institute Vision**

*Our vision is to impart vibrant, innovative and global education to make IMS the world leader in terms of excellence of education, research and to serve the nation in the 21st century.*

## **Institute Mission**

- *To develop IMSEC as a center of Excellence in Technical and Management education.*
- *To inculcate in its students, the qualities of Leadership, Professionalism, Executive competence and corporate understanding.*
- *To imbibe and enhance Human Values, Ethics and Morals in our students.*
- *To transform students into Globally Competitive professionals.*

# DEPARTMENT

## Department Vision

*To be recognized as a Centre of Excellence imparting quality education and creating new opportunities for students to meet the challenges of technological development in Computer Science & Engineering.*

## Institute Mission

- To promote technical proficiency by adopting effective teaching learning processes.*
- To provide environment & opportunity for students to bring out their inherent talents for all round development.*
- To promote latest technologies in Computer Science & Engineering and across disciplines in order to serve the needs of Industry, Government, Society and the scientific community.*
- To educate students to be Successful, Ethical and Effective problem-solvers and Life-Long learners who will contribute positively to the society.*

# PROGRAM EDUCATIONAL OBJECTIVES

Graduates of the program will be able to apply fundamental principles of mathematics, engineering, management, basic programming languages in problem understanding & formulating its solutions.

They will be aware of the role of computing in multiple disciplines.

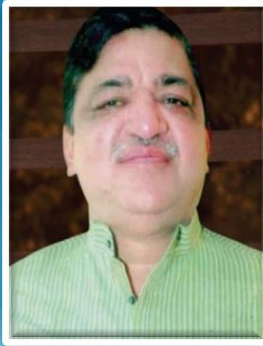
- *Graduates will learn to apply the principles of advanced computerprogramming & approaches, software engineering, projectmanagement, emerging techniques & tools while developing realworld computational solutions and projects. Graduates should also learn to collaborate & apply innovative aspects in problem solving.*
- *Graduates will enhance their technical, aptitude, communication & professional skills through value addition programs, project based learning, engineering events, self-learning, re-search, interaction with industry & alumni. Help our graduates to establish a productive Computer Science and Engineering career in Industry, Government or Academia.*
- *To promote the understanding of professionalism, ethics, social responsibilities among graduates. They will contribute to the society through active engagement with professional societies, schools, civic organizations or other*

# PROGRAM SPECIFIC OUTCOMES

Student should learn to demonstrate the basic understanding of Computer Science & Engineering fundamentals, programming, and professional/social ethics and apply mathematical foundations to design & solve computational problems.

- *Student should learn to apply analysis, design, development, testing & management principles in the development of computational solutions & software systems; He/she is expected to function effectively in development teams.*
- *Student is expected to gain enough value addition and technical expertise on latest industry specific skills through self learning & training. They are expected to have good communication skills with correct attitude and aptitude.*
- *Students are expected to inspire for lifelong learning & do well in their professional careers. They are also expected to act as a good citizen by inculcating in them moral values & ethics.*

# EXECUTIVE COUNCIL



**Shri Naresh Agarwal**  
Chairman



**Shri Ramesh Choudhry**  
General Secretary



**Smt. Anshu Gupta**  
Joint Secretary



**Shri Sanjay Agarwal**  
Treasurer



**Shri Rajiv Chaudhary**  
Executive Member



**Shri Pramod Agarwal**  
Executive Member



**Shri Ashok Chaturvedi**  
Executive Member





**Shri Rakesh Chhria**  
Executive Member



**Shri. Nitin Agarwal**  
Executive Member



**Shri Sudhir Shukla**  
Executive Member



**Shri Apurve Goel**  
Executive Member



**Ms. Gharima Aggarwal**  
Executive Member



**Shri Vidur Chharia**  
Executive Member

# EDITORIAL BOARD



**Ms. Sapna Yadav**  
**Chief Editor**



**Mr. Pavan Sharma**  
**Editor**



**Mr. Hakim Singh**  
**Editor**



**Mr. Gaurav Vats**  
**Editor**

# STUDENT COORDINATORS



**Achyut Tiwari**  
**3<sup>rd</sup> Year**



**Hritik Bhardwaj**  
**3<sup>rd</sup> Year**



**Ayush Kumar**  
**Srivastava**  
**3<sup>rd</sup> Year**



**Apoorva Rauniar**  
**2<sup>nd</sup> Year**

# MESSAGE FROM THE HEAD OF DEPARTMENT



*Dear Students,*

*In this time of difficulty due to outbreak of Corona Virus which has led to so much of loss to human kind across the world, I will request you all to stay at home, follow social distancing and behave like responsible citizens of the country & whole mankind.*

*As teachers we all are trying our best to bridge some gap in your studies through online lecture delivery modes. It is nice to see that as students you all are complementing our efforts. Learning & efforts must never stop.*

*Things must continue on even in hardest of times. Team of Byte comprising your faculty & student members have put in their sincere efforts in publishing this edition of Byte which is really commendable. Your efforts are really appreciable and the department extends congratulations to you all*

*Dr.Pankaj Agarwal  
Head, CSE Department*

# MESSAGE FROM EDITORIAL DESK

*It is with immense happiness that we place in the hands of our readers this edition of 'THE BYTE'. This magazine is a platform that exhibits the literary skills, innovative ideas of teachers and students. It was crazy when we started it but when it all come together, we were more than happy.*

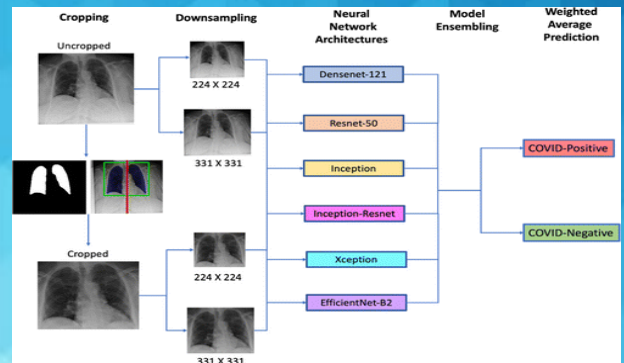
*We express our considerable appreciation to all the authors of the articles in this magazine. These contributions have required a generous amount of time and effort. It is this willingness to share knowledge, concerns and special insights with fellow beings that has made this magazine possible. We hope you enjoy reading these articles, as seen through the IMS student's journalistic eye.*

*Thank you all!!*

# AI IN MEDICAL WORLD

As we know Artificial Intelligence is already in demand in every sector of society. Recently, AI has brought a huge revolution in the medical field.

Researchers of Northwestern University have developed a new AI platform Called Deep COVID-XR, that detects Covid-19 by analyzing X-ray images of the lungs. The machine learning algorithm was able to spot Covid-19 in X-rays about 10 times faster and 1-6% more accurately than a team of specialized thoracic radiologists.



Researchers think that this AI system can be used in hospitals to detect Covid-19 faster and earlier so that the patient can be isolated in early stages. In order to create this algorithm the researchers used 17,002 chest X-ray images. Of those images, 5,445 came from COVID-19-positive patients from sites across the Northwestern Memorial Healthcare System. Where the radiologists took approximately 2.5 hours to 3.5 hours to examine a set of images, the A.I. system took about 18 minutes. The radiologist's accuracy ranged from 76-81%, whereas, Deep COVID-XR performed slightly better at 82% accuracy.

Moreover, another AI designed by Duke University was able to interpret a combination of retinal images and identify Alzheimer's disease in patients. This can help patients in early detection, precise diagnostic, earlier clinical trials etc.

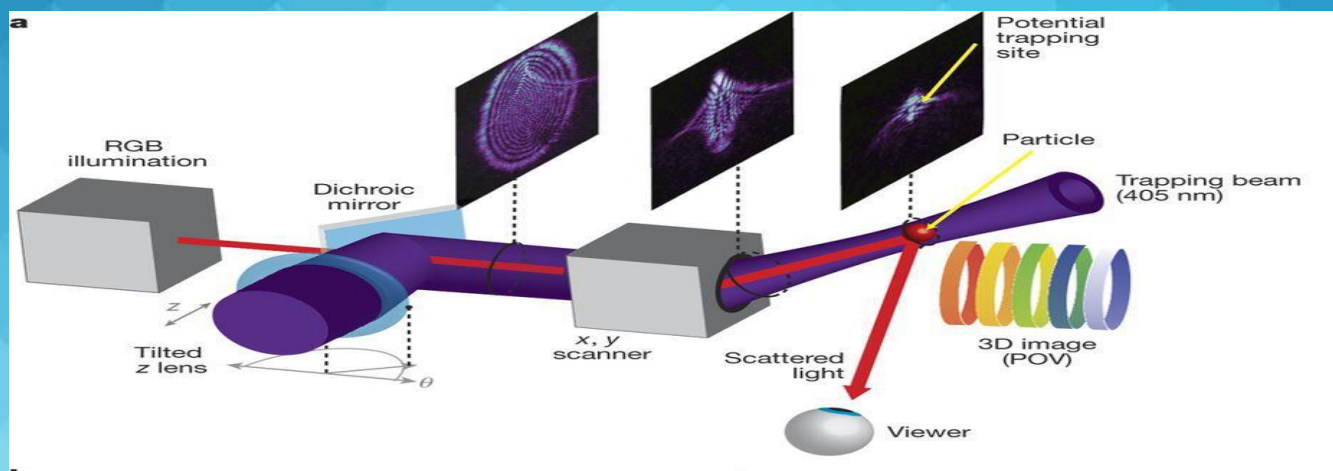


The university team initially identified changes in retinal blood vessel density that correlated with changes in cognition and found out that decreased density of the capillary network around the center of the macula is an indication of Alzheimer's disease. Using this knowledge the team trained a ML model known as Convolutional Neural Network(CNN) using four types of retinal scans as inputs. Scans from 159 study participants were used to build the CNN in which 123 patients were cognitively healthy, and 36 patients were known to have Alzheimer's disease.

**By- Aashish Upadhyay(CSE 3rd Year)**

# FREE-SPACE VOLUMETRIC DISPLAYS

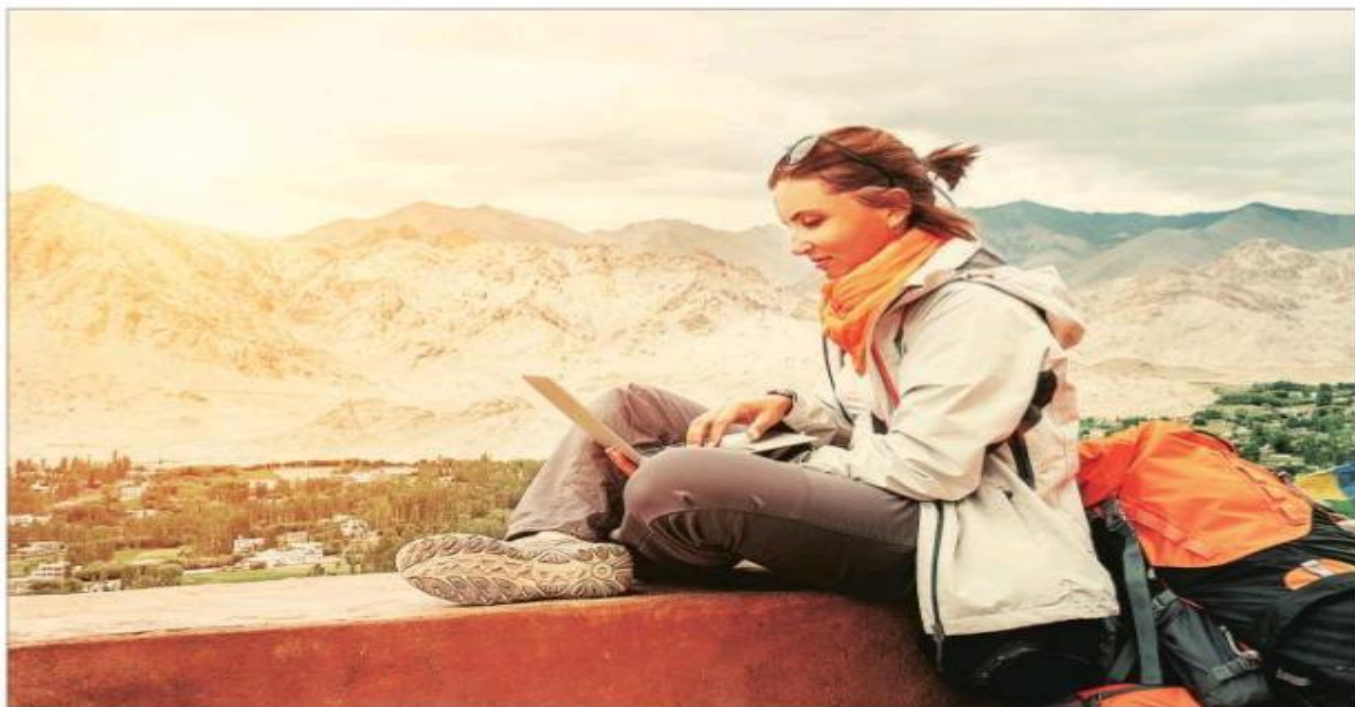
Remember that iconic scene from “Star Wars” which was developed 40 years ago in which R2D2 projects a video of Princess Leia in free space. That concept of 3D display is no more a fiction now!! We can now feel the image in air, and by that I don’t mean a holographic image, it’s called a volumetric image that floats in air and that you can see from each and every angle, similarly how Tony Stark (Iron Man) interacts with “JARVIS” in free space.



Recently, professors of Electrical and Computer Science department of Brigham Young University, along with holography expert Daniel Smalley have designed a 3D image display, known as Free-Space Volumetric Display. Such displays are capable of producing images in ‘thin air’ and are not subjected to clipping which modulate light at a 2D surface with an edge boundary, like holographic display, Nano photonic arrays, plasmonic displays etc.

Free-space volumetric display is based on photophoretic optical trapping. The optical trapping technique works by capturing and suspending tiny physical particles or cellulose particles around 10 microns in mid-air using special and precise projection lenses in a photophoretic trap created by spherical and astigmatic aberrations. These floating particles then form a screen which is scanned through a display volume by being illuminated with red, green, and blue lights and the particles scatter the light in all directions. The result is a three dimensional image in free space with a large color gamut, fine detail and low apparent speckle. This platform, named the Optical Trap Display, is capable of producing image geometries that are currently unobtainable with holographic and light-field technologies, such as long-throw projections, tall sand tables and ‘wrap-around’ displays.

**Achyut Tiwari CSE-1, 3<sup>rd</sup> Year**



# The workcation life

**Bored and stressed with work from home, many professionals today are opting to break the monotony by travelling to scenic locales to work and play**

VAISHALI DAR

**W**ITH WORK FROM home becoming the definitive normal, a new trend is emerging: the workcation, wherein professionals are choosing to migrate to scenic locales to work while enjoying a vacation. And why not, as there seems to be no end to work from home (WFH) for the near future. A KPMG 2020 Covid-19 HR report states that 68% organisations in India have incorporated WFH policies. As per Willis Towers Watson India, 55% companies in the country have no end date on WFH arrangements, while Knight Frank indicates that over 70% companies are likely to continue WFH for at least the next six months.

In such a scenario, a workcation makes perfect sense. Not surprisingly, a large chunk of the population today has migrated to hometowns or tourist spots to stay creative and motivated. Many of them sat in front of the computer within the same four walls all the time for the past few months, which resulted in boredom and stress. Working from a scenic mountain home or beach has naturally helped.

According to a 2020 ixigo travel trend report, there has been a change in preferences of travellers after domestic flights resumed operations in May-June. With a majority of Indian companies announcing WFH, 30% travellers revealed that they have been working remotely from a leisure destination. "We have seen a 27% month-on-month increase in search queries for popular getaways such as Goa, Jaipur, Shimla, Udaipur and Uttarakhand. Most of the travellers have opted for home rentals/service apartments/villas as their preferred choice, followed by resorts and eco-friendly cottages. Attractive hotel deals and flexible cancellation policies are also encouraging travellers to embrace this trend," says Gurugram-based Alok Bajpai, CEO and co-founder, ixigo, a travel e-commerce website.

For Delhi-based social entrepreneur Shailza Sood Dasgupta, who works closely with local rural communities to augment the village economy by generating alternative income streams, opting for a solo workcation worked wonders. "Homestays are a big hit for workcations, especially in Himachal and Uttarakhand, as they are cost-effective and provide 40-50% discount on monthly stays... it is someone's home, so safety and security is not an issue. There's no worry about cooking, as I relished fresh organic home-cooked meals every day. The host family maintains all hygiene measures. The booking lasts from 15 days to a month, so this idea helps one to work in a pollution-free environment and at the same time explore a new place on weekends. It not only improves productivity, but

also improves physical and mental health," says Dasgupta, who stayed in Mukteshwar, Uttarakhand.

Destinations like Uttarakhand offer one the opportunity to work from the mountains. "Workcation is a therapy for the body, mind and soul. What makes it unique are the essential facilities: high-speed internet connectivity, power backup, comfort stay, first-aid facilities, healthy food... office-goers can attend calls, kids can attend online classes," says Uttarakhand Tourism secretary Dilip Jawalkar, who has introduced several schemes to revive the sector.

A good number of travellers also took to driving holidays with cost-effective getaways close to the cities. "Safety is a function of the enhanced protocols a resort or holiday home offers. Given the huge drop in occupancies, homestays have created special packages to attract a workcation-seeking audience for longer stays. This has resulted in fairly attractive room rates, meals at heavy discounts and also a high-quality Wi-Fi experience, so that work can continue without interruption," says Bengaluru-based Ashok Lalla, an independent digital business adviser.

Travel services company Thomas Cook introduced workcations in a range of short breaks and mid-week escapes, starting at an attractive price of ₹2,299 onwards. "WFH has become the new normal. Thus, the opening up of domestic aviation and easing of travel restrictions have helped in witnessing strong pent-up travel demand," says Rajeev Kale, president and country head, Holidays, MICE, Visa, Thomas Cook.

**HOMESTAYS ARE A BIG HIT, ESPECIALLY IN HIMACHAL PRADESH AND UTTARAKHAND, AS THEY ARE COST-EFFECTIVE**

# IMSEC CODING CLUB

CSE Departments, IMS Engineering College

Online Coding Challenge

Conducted by: Hakim Singh, CSE Department

## FIRST CONTEST



Rank: 1<sup>st</sup>  
(REWANT PANDEY)  
(1714310147)



Rank: 2<sup>nd</sup>  
(PRASHANT VERMA)  
(1814310149)



Rank: 3<sup>rd</sup>  
(AYUSH KUMAR SRIVASTAVA)  
(1814310060)



Rank: 4<sup>th</sup>  
(SHASHANK TRIPATHI)  
(1901430120049)



Rank: 5<sup>th</sup>  
(RITIK PATEL)  
(1901430100124)

## SECOND CONTEST



Rank: 1<sup>st</sup>  
(DEVANSH AGARWAL)  
(1901430100071)



Rank: 2<sup>nd</sup>  
(SHASHANK SRIVASTAVA)  
(1814310189)



Rank: 3<sup>rd</sup>  
(PIYUSH KUMAR VERMA)  
(1814310139)



Rank: 4<sup>th</sup>  
(VAIBHAV GUPTA)  
(1814310236)



Rank: 5<sup>th</sup>  
(CHIRAG GOEL)  
(1901430100062)

## THIRD CONTEST



Rank: 1<sup>st</sup>  
(SHASHANK SRIVASTAVA)  
(1814310189)



Rank: 2<sup>nd</sup>  
(PIYUSH KUMAR VERMA)  
(1814310139)



Rank: 3<sup>rd</sup>  
(DEVANSH AGARWAL)  
(1901430100071)



Rank: 4<sup>th</sup>  
(VAIBHAV GUPTA)  
(1814310236)



Rank: 5<sup>th</sup>  
(SUMIT KUMAR)  
(1814310169)

## FOURTH CONTEST



Rank: 1<sup>st</sup>  
(ATUL PRATAP SINGH)  
(1814310057)



Rank: 2<sup>nd</sup>  
(DEVANSH AGARWAL)  
(1814310071)



Rank: 3<sup>rd</sup>  
(SUMENDRA SINGH)  
(1814310217)



Rank: 4<sup>th</sup>  
(SAMEEKSHA AHUJA)  
(1901430120046)



Rank: 5<sup>th</sup>  
(SHIVAM KUMAR)  
(1814310236)



10<sup>TH</sup> OCT 2020

SR.NO	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1814310139	PIYUSH VERMA	III	CS3	30/50	1 <sup>ST</sup>
2	1814310149	PRASHANT VERMA	III	CSE1	30/50	2 <sup>ND</sup>
3	1814310080	FAIZAN ALI	III	CSE2	30/50	3 <sup>RD</sup>
4	1814310189	SHASHANK SRIVASTAVA	III	CSE4	30/50	4 <sup>TH</sup>
5	1901430100124	MONU TEOTIA	II	CSE3	30/50	5 <sup>TH</sup>

21<sup>ST</sup> OCT 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1814310142	PRAKHAR SINGH	III	CS3	25/50	1 <sup>ST</sup>
2	1901430100071	DEVANSH AGARWAL	II	CSE2	25/50	2 <sup>ND</sup>
3	1901430100193	SAURABH TRIGUNAYAT	II	CSE4	25/50	3 <sup>RD</sup>
4	1901430100060	BIBHAS CHANDRA GUPTA	II	CSE1	25/50	4 <sup>TH</sup>

31<sup>ST</sup> OCT 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1901430100071	DEVANSH AGARWAL	II	CSE2	50/50	1 <sup>ST</sup>
2	1901430100199	SHIVAM KUMAR	II	CSE2	50/50	2 <sup>ND</sup>
3	1814310057	ATUL PRATAP SINGH	III	CSE1	50/50	3 <sup>RD</sup>
4	1814310080	FAIZAN ALI	III	CSE2	50/50	4 <sup>TH</sup>
5	1901430100193	SAURABH TRIGUNAYAT	II	CSE4	50/50	5 <sup>TH</sup>

3<sup>RD</sup> OCT 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1814310057	ATUL PRATAP SINGH	III	CS1	40/50	1st
2	1901430100071	DEVANSH AGARWAL	II	CSE2	40/50	2nd
3	1814310217	SUMENDRA SINGH	III	CSE4	40/50	3rd
4	1901430120046	SAMEEKSHA AHUJA	II	CSE(NEW)	40/50	4th
5	1814310236	SHIVAM KUMAR	II	CSE4	40/50	5th

20<sup>TH</sup> SEP 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
2	1814310189	SHASHANK SRIVASTAVA	III	CSE4	100	1st
3	1814310139	PIYUSH KUMAR VERMA	III	CSE3	100	2nd
	1901430100071	DEVANSH AGARWAL	II	CS2	100	3rd
4	1814310236	VAIBHAV GUPTA	III	CSE4	100	4th
5	1814310218	SUMIT KUMAR	III	CSE4	100	5th

13<sup>TH</sup> SEP 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1901430100071	DEVANSH AGARWAL	II	CSE2	105	1st
2	1814310189	SHASHANK SRIVASTAVA	III	CSE4	105	2nd
3	1814310139	PIYUSH KUMAR VERMA	III	CSE3	105	3th
4	1814310236	VAIBHAV GUPTA	III	CSE4	105	4th
5	1901430100062	CHIRAG GOEL	II	CSE1	105	5th

5<sup>TH</sup> SEP 2020

SR.NO.	ROLL NO.	STUDENT NAME	YEAR	SECTION	SCORE	RANK
1	1714310147	REWANT PANDEY	IV	CS4	30	1st
2	1814310149	PRASHANT VERMA	III	CS3	30	2nd
3	1814310060	AYUSH KUMAR SRIVASTAVA	III	CS1	30	3rd
4	1901430120049	SHASHANK TRIPATHI	II	CS(NEW)	30	4th
5	1814310169	RITIK PATEL	III	CS3	30	5th

# PUZZLE

## 1. Bag of Coins:

You have 10 bags full of coins. In each bag are infinite coins. But one bag is full of forgeries, and you can't remember which one. But you do know that a genuine coins weigh 1 gram, but forgeries weigh 1.1 grams. You have to identify that bag in minimum readings. You are provided with a digital weighing machine.



## 2. Chaos in the bus

There is a bus with 100 labeled seats (labeled from 1 to 100). There are 100 persons standing in a queue. Persons are also labelled from 1 to 100.

People board on the bus in sequence from 1 to  $n$ . The rule is, if person ' $i$ ' boards the bus, he checks if seat ' $i$ ' is empty. If it is empty, he sits there, else he randomly picks an empty seat and sit there. Given that 1st person picks seat randomly, find the probability that 100th person sits on his place i.e. 100th seat.



## 3. Lazy people need to be smart

Four glasses are placed on the corners of a square Lazy Susan (a square plate which can rotate about its center). Some of the glasses are upright (up) and some upside-down (down).

A blindfolded person is seated next to the Lazy Susan and is required to re-arrange the glasses so that they are all up or all down, either arrangement being acceptable (which will be signalled by say ringing of a bell).

The glasses may be rearranged in turns with subject to the following rules: Any two glasses may be inspected in one turn and after feeling their orientation the person may reverse the orientation of either, neither or both glasses. After each turn the Lazy Susan is rotated through a random angle.

The puzzle is to devise an algorithm which allows the blindfolded person to ensure that all glasses have the same orientation (either up or down) in a finite number of turns. (The algorithm must be deterministic, i.e. non-probabilistic )



# TECHNICAL QUESTIONS

**Q1. Which of the following is the correct order of evaluation for the below expression?**

$z = x + y * z / 4 \% 2 - 1$

Options

- 1) \* / % + - =
- 2) = \* / % + -
- 3) / \* % - + =
- 4) \* % / - + =

**Q2. To scan a and b given below, which of the following scanf() statement will you use?**

**#include**

**float a;**

**double b;**

Options

- 1) scanf("%f %f", &a, &b);
- 2) scanf("%Lf %Lf", &a, &b);
- 3) scanf("%f %Lf", &a, &b);
- 4) scanf("%f %lf", &a, &b);

**Q3. The keyword used to transfer control from a function back to the calling function is**

Options

- 1) switch
- 2) goto
- 3) go back
- 4) return

**Q4. You are given a forest (it may contain a single tree or more than one tree) with N nodes. Each node is given an integer value 0 to (N-1).**

**You have to find:**

**The depth of forest at which maximum number of nodes are present.**

**N can be very large. Aim for an algorithm with a time complexity of O(N).**

**INPUT FORMAT**

An integer T, denoting the number of testcases, followed by 2T lines, as each testcase will contain 2 lines.

First line of each testcase has the value of N.

Second line of each testcase has list of N values where the number at index i is the parent of node i. The parent of root is -1. ( The index has the range [0, N-1] ).

**OUTPUT FORMAT**

For each testcase given, output a single line that has the depth of forest at which maximum number of nodes are present. If multiple depths has same number of nodes, then deepest depth should be selected.

**SAMPLE INPUT**

```
2
6
5 -1 1 1 5 2
13
4 3 -1 -1 1 2 7 3 1 4 2 1 2
```

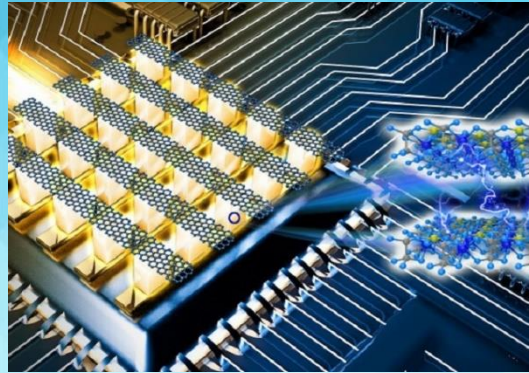
**SAMPLE OUTPUT**

```
3
1
```

# CURRENT AFFAIRS

- **World's smallest memory device created**

**The scientists have reduced the size of the thinnest memory storage device by shrinking the cross-section area down to just one single square nanometre.**



Researchers have created the **world's smallest memory device** yet. This development may lead to the creation of faster, smaller and more energy-efficient electronic chips for consumer electronics and brain-inspired computing.

The researchers also discovered the physics that unlocks dense memory storage capabilities for these tiny devices. The research was published recently in a journal called 'Nature Nanotechnology'. The researchers belong to the University of Texas at Austin.

- **United States second biggest FDI source for India during first half of FY 2020-2021**

**Singapore with an investment of USD 8.30 billion retains its position on top in April-September 2020.**

As per the data made available by the commerce and industry ministry, the United States has emerged as the second-biggest source of Foreign Direct Investment (FDI) for India during April-September 2020. It replaced Mauritius during the first half of the Financial Year 2020.

The data showed by the Department for Promotion of Industry and Internal Trade, India had attracted FDI worth USD 7.12 billion from the United States and USD 2 billion from Mauritius, which slipped to 4th position during April-September 2020.

Earlier during the same period in 2019-20, Mauritius was the second-biggest source of FDI and the US was the fourth biggest investor in India. Singapore with an investment of USD 8.30 billion in India retains its position on top in April-September 2020.

# CURRENT AFFAIRS

- **International Emmy Awards 2020: Delhi Crime from India wins best drama series, check the complete list of winners**

**Netflix's Delhi Crime has become the first Indian web-series to win at the International Emmy Awards. The series which is directed by Richie Mehta is based on the horrific 2012 Delhi gang-rape and murder.**

Indian web series Delhi Crime on Netflix has won the best drama series award at the 48th International Emmy Awards 2020. The event was held virtually for the first time in the history of International Emmy Awards due to the pandemic.

The award ceremony was hosted live by TV, film, and stage actor Richard Kind on November 23, 2020, from an empty theatre in New York City without any live audience and red carpet. The actors who presented the prestigious awards were some of the renowned names such as Paul Blackthorne, Kelsey Asbille, Haluk Bilginer, Indira Varma among others.

Another Indian show on prime 'Four More Shots Please' and actor Arjun Mathur from 'Made in Heaven' also made their way for the nominations in the respective categories of International Emmy Awards but did not win.

- **Four southern states, Kerala (1.388 ), Tamil Nadu (0.912), Andhra Pradesh (0.531) & Karnataka (0.468) stood in the 1st four ranks in the large state category in terms of governance.**



# CURRENT AFFAIRS

Kerala has adjudged the best - governed state in the country while Uttar Pradesh (UP) pushed to the bottom in the large states category, according to the PAI - Public Affairs Index 2020 released by the Public Affairs Centre. The city-based not-for-profit organisation, headed by former ISRO - Indian Space Research Organisation chairman K Kasturirangan, highlighted that the states were ranked on governance performance based on a composite index in the context of sustainable development.

Four southern states, Kerala (1.388 ), Tamil Nadu (0.912), Andhra Pradesh (0.531) & Karnataka (0.468) stood in the 1st four ranks in the large state category in terms of governance.

**The index helps to define each country's academic freedom level and the researchers asserted that the primary goal behind this idea is to comprehend a university's attractiveness in addition to its infrastructure, research output, etc.**

Academic Freedom Index(AFI) report provides a score to individual countries to specify the level of academic liberation its universities and educational centres.

- **The National Portal for Transgender Persons has been developed as per the Notification of Transgender Persons (Protection of Rights) Rules, 2020.**

26 November 2020 Current Affairs:Union Minister for Social Justice and Empowerment Shri Thaawarchand Gehlot e-launched a 'National Portal for Transgender Persons'. He also e-inaugurated a 'Garima Greh: A Shelter Home for Transgender Persons' in Vadodara, Gujarat.

The portal aims to help a lot of people from the community to come forward and get Transgender Certificate and Identity Cards as per their self-perceived identity which is an important provision of The Transgender Persons (Protection of Rights) Act, 2019.

# CURRENT AFFAIRS

- **Dubai is starting up the \$3.4 billion Hassyan coal plant, with capacity being increased from an initial 600 megawatts (MW) to 2,400 by 2023.**

27 November 2020 Current Affairs: The United Arab Emirates (UAE) is set to become the first Arab Gulf country to generate electricity from coal with an aim to turn to cleaner fuels. Most of the electricity stations in Dubai run on gas.

Dubai is starting up the \$3.4 billion Hassyan coal plant, with capacity being increased from an initial 600 megawatts (MW) to 2,400 by 2023. Coal will be supplied by Japan's Jera Co. under a long-term agreement with Acwa Power of Saudi Arabia, which is developing the plant. The standards for pollution will be based on guidelines for natural-gas plants set by the European Union and the World Bank's International Finance Corp. In this region, Oman launched a tender for a coal project at Duqm in 2018, but it was later shelved.

- **The researchers pointed out that with this melting, the sea level has risen by 8 millimetres. The Ilulissat Glacier discharges 6.5% of Greenland's ice sheet. It produces about 10% of Greenland icebergs.**



According to recent studies, the three largest glaciers have enough frozen water to raise the global sea level to about 1.3 meters, namely the Helheim Glacier, Jacob von Isbre and Kenglussuge Glacier. Melted earlier than expected. The current situation shows that until 2000, sea levels have been rising due to the melting of several glaciers. But in the last 20 years, the ice sheets of Greenland and Antarctica have become the single largest source of sea-level

# UPCOMING CONFERENCE

S.No.	Topic	Submission Deadline	Conference Dates	Conference & Submission link (Proceeding Indexed by)
1	CIAIS 2021: International Conference on Computational Intelligence in Analytics and Information Systems	December 10, 2020	April 2-3, 2021	<a href="https://ciais2021.com/">https://ciais2021.com/</a> (conference website) <a href="https://easychair.org/conferences/?conf=ciais2021">https://easychair.org/conferences/?conf=ciais2021</a> (submission link)
2	ICMC 2021 : 7th International Conference on Mathematics and Computing (ICMC 2021)	15 Dec, 2020	Mar 2, 2021 – Mar 5, 2021	<a href="https://icmc2021.in">https://icmc2021.in</a> (Springer)
3	ICCCIS 2021 : International Conference on Computing, Communication, and Intelligent Systems	15 Dec, 2020	Feb 19, 2021 – Feb 20, 2021	<a href="http://www.icccis.in/">http://www.icccis.in/</a> (IEEE)
4	ICICC-2021: International Conference on Innovative Computing and Communication	December 15, 2020	February 20-21, 2021	<a href="http://icicc-conf.com">http://icicc-conf.com</a> (Conference website) <a href="https://easychair.org/conferences/?conf=icicc2021">https://easychair.org/conferences/?conf=icicc2021</a> (submission link)
5	ICWSNUCA-2021 : International Conference on Wireless Sensor Networks, Ubiquitous Computing and Applications	20 Dec, 2020	Feb 26, 2021 – Feb 27, 2021	<a href="http://www.icwsnuca.com">http://www.icwsnuca.com</a> (Springer)
6	AIS2C2 : International Conference on Artificial Intelligence and Sustainable Computing for Smart Cities	21st Dec, 2020	Mar 22, 2021 – Mar 23, 2021	<a href="http://www.aiscindia2021.com">http://www.aiscindia2021.com</a> (Spriner)
7	NREST-2021: National Conference on Research in Engineering, Science and Technology	25th Dec, 2020	February 19 – 20, 2021	<a href="http://www.eventsmhssp.in/national-conference/">http://www.eventsmhssp.in/national-conference/</a> (Conference Website) <a href="https://easychair.org/conferences/?conf=nrest2021">https://easychair.org/conferences/?conf=nrest2021</a> (Submission link)
8	WiSPNET2021: International Conference on Wireless Communications, Signal Processing and Networking	December 31, 2020	March 25-27, 2021	<a href="http://wispnet2021.org/">http://wispnet2021.org/</a> (conference website) <a href="https://easychair.org/conferences/?conf=wispnet2021">https://easychair.org/conferences/?conf=wispnet2021</a> (submission link)
9	ICPCSN 2021 : International Conference on Pervasive Computing and Social Networking	2nd Jan, 2021	Mar 19, 2021 – Mar 20, 2021	<a href="http://icpcsi.in/">http://icpcsi.in/</a> (Springer)
10	ICAIS 2021 : International Conference on Artificial Intelligence and Smart Systems	7th Jan, 2021	Mar 25, 2021 – Mar 27, 2021	<a href="http://icaise.in/2021/">http://icaise.in/2021/</a> (IEEE)
11	ICUIS 2021 : International Conference on Ubiquitous Intelligent Systems	10th Jan, 2021	Apr 16, 2021 – Apr 17, 2021	<a href="http://icuis.in/">http://icuis.in/</a> (Springer)



# UPCOMING WEBINARS

S.No.	Topic	Time & Date	Link
1	Digital claims of Future - how do we operationalise and create a Thin Human Digital Claims organization	3:00 PM, 10 Dec 2020	<a href="https://www.techgig.com/webinar/Digital-claims-of-Future-how-do-we-operationalise-and-create-a-Thin-Human-Digital-Claims-organisation-1910">https://www.techgig.com/webinar/Digital-claims-of-Future-how-do-we-operationalise-and-create-a-Thin-Human-Digital-Claims-organisation-1910</a>
2	Demystifying modern applications with Spring & Kubernetes	3:00 PM, 14 Dec 2020	<a href="https://www.techgig.com/webinar/Demystifying-modern-applications-with-Spring-Kubernetes-1916">https://www.techgig.com/webinar/Demystifying-modern-applications-with-Spring-Kubernetes-1916</a>
3	Women in Tech Space- Experience & Journey.	3:00 PM, 16 Dec 2020	<a href="https://www.techgig.com/webinar/Women-in-Tech-Space-Experiences-Journey-1715">https://www.techgig.com/webinar/Women-in-Tech-Space-Experiences-Journey-1715</a>

## MOST POPULAR WEBINAR (ALL READY SCHEDULED)

S.No.	Topic	Location
1	Multi channel Test Automation with open source	<a href="https://www.techgig.com/webinar/Multi-channel-Test-Automation-with-open-source-557">https://www.techgig.com/webinar/Multi-channel-Test-Automation-with-open-source-557</a>
2	Career opportunities in Digital (with live QnA)	<a href="https://www.techgig.com/webinar/Career-opportunities-in-Digital-with-live-QnA-606">https://www.techgig.com/webinar/Career-opportunities-in-Digital-with-live-QnA-606</a>
3	SQL Injections	<a href="https://www.techgig.com/webinar/SQL-Injections-529">https://www.techgig.com/webinar/SQL-Injections-529</a>
4	An hour with Big Data and Hadoop Architecture	<a href="https://www.techgig.com/webinar/An-hour-with-Big-Data-and-Hadoop-Architecture-565">https://www.techgig.com/webinar/An-hour-with-Big-Data-and-Hadoop-Architecture-565</a>
5	Component and Module Development in Joomla 2.5	<a href="https://www.techgig.com/webinar/Component-and-Module-Development-in-Joomla-2-5-176">https://www.techgig.com/webinar/Component-and-Module-Development-in-Joomla-2-5-176</a>
6	Careers in IT	<a href="https://www.techgig.com/webinar/Careers-in-IT-937">https://www.techgig.com/webinar/Careers-in-IT-937</a>
7	How to Create a Responsive Website	<a href="https://www.techgig.com/webinar/How-to-Create-a-Responsive-Website-438">https://www.techgig.com/webinar/How-to-Create-a-Responsive-Website-438</a>
8	HTML5 Security	<a href="https://www.techgig.com/webinar/HTML5-Security-528">https://www.techgig.com/webinar/HTML5-Security-528</a>
9	Software Testing Series (Total Sessions: 3)	<a href="https://www.techgig.com/webinar/Software-Testing-Series-Session-3-Test-Planning-and-Control-20">https://www.techgig.com/webinar/Software-Testing-Series-Session-3-Test-Planning-and-Control-20</a>
10	Mobile App Development Series (Total numbers: 7)	<a href="https://www.techgig.com/webinar/Mobile-App-Development-Series-Session-1-Getting-Started-with-Android-App-Development-23">https://www.techgig.com/webinar/Mobile-App-Development-Series-Session-1-Getting-Started-with-Android-App-Development-23</a>

# UPCOMING HACKATHONS

S.No.	Topic	Location	Time & Date	Link
1	EXECUTE Hackathon (MLH- Execute)	By Delhi Technological University, India IST	19 Dec'20 12:00 AM IST - 20 Jan'21 12:00 AM IST	Website: <a href="https://executehack.in/">https://executehack.in/</a>
2	Demystifying modern applications with Spring & Kubernetes		3:00 PM, 14 Dec 2020	Website: <a href="https://web-athon.herokuapp.com/">https://web-athon.herokuapp.com/</a>
3	Women in Tech Space- Experience & Journey.		3:00 PM, 16 Dec 2020	Website: <a href="https://www.isfcr.pes.edu/">https://www.isfcr.pes.edu/</a>
4	LETS HACK		19 Dec'20 10:00 AM IST - 20 Dec'20 11:00 PM IST	Website: <a href="https://letshack.zubi.io/">https://letshack.zubi.io/</a>

# PLACED STUDENTS

## TCS (CODEVITA) SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1614310006	ABHISHEK TIWARI	TCS (Codevita)
2.	1714310012	ADARSH YADAV	TCS (Codevita)
3.	1714310025	AMAN TYAGI	TCS (Codevita)
4.	1714310028	AMISHI GARG	TCS (Codevita)
5.	1714310031	ANAMIKA AWASTHI	TCS (Codevita)
6.	1714310033	ANJALI NEGI	TCS (Codevita)
7.	1714310040	ANURAG SRIVASTAVA	TCS (Codevita)
8	1714310042	ARCHIT SINGH	TCS (Codevita)
9	1714310043	ARUNAV DEY	TCS (Codevita)
10	1714310050	AYUSH GUPTA	TCS (Codevita)
11	1714310056	CHITRANSHI VARSHNEY	TCS (Codevita)
12	1714310061	DEEPANSHU	TCS (Codevita)
13	1714310073	HARSH AGARWAL	TCS (Codevita)
14	1714310084	JATIN SRIVASTAVA	TCS (Codevita)
15	1714310092	KISHAN KR JAISWAL	TCS (Codevita)
16	1714310095	KRISHNANSHU MISHRA	TCS (Codevita)
17	1714310117	NIKHIL YADAV	TCS (Codevita)
18	1714310126	PRAKHAR AGARWAL	TCS (Codevita)
19	1714310128	PRANJALI MALIK	TCS (Codevita)

## INFOSYS SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310073	HARSH AGARWAL	Infosys
2.	1714310139	RADHIKA SHARMA	Infosys

## VVDN SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310041	ANURAG TIWARI	VVDN
2.	1714310079	HIMANSHU VISHWAKARMA	VVDN

# PLACED STUDENTS

## DELOITTE SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310025	AMAN TYAGI	DELOITTE INTERNSHIP
2.	1714310073	HARSH AGARWAL	DELOITTE INTERNSHIP
3.	1714310123	PRACHI SINGH	DELOITTE INTERNSHIP
4.	1714310139	AMISHI GARG	DELOITTE INTERNSHIP

## HEXAWARE SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310079	HIMANSHU VISHWAKARMA	HEXAWARE
2.	1714310111	NAMAN GUPTA	HEXAWARE

## CENTILYTICS SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310050	AYUSH GUPTA	CENTILYTICS
2.	1714310163	SARVENDU PANDEY	CENTILYTICS

## NAGARO SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310041	ANURAG TIWARI	NAGARO INTERNSHIP
2.	1714310205	UTKARSH GUPTA	NAGARO INTERNSHIP

## PIMCORE SELECTION

S.NO	ROLL NO	STUDENT	COMPANY NAME
1.	1714310205	UTKARSH GUPTA	PIMCORE



# CAREER GUIDANCE



## LIST OF TOP 18 HIGHEST PAYING IT JOBS IN-DEMAND FOR FUTURE

### 1. AI SPECIALIST IS TOP IT JOB

When we talk about the top IT jobs in demand for future than AI Specialist comes on the 1st number. Everyday we hear in news and internet that how artificial intelligence demand is increasing and every company is working on this. The job openings for AI specialist in software companies, research centers of universities, IT/ITES companies and in big companies which are maintaining in-house AI groups will be very high.

### 2. DATA SCIENTIST

Data scientist is one of the highest paying it job in 2021. Data scientists are responsible for gathering business, market and customer data from multiple sources to interpret, process and analyze. The job openings for Data Scientists will be very high in financial services, healthcare, e-commerce, academics and IT/ITES, e-commerce.

### 3. ROBOTICS ENGINEER

As per the Bureau of Labor Statistics, the demand for Robotic engineers is expected to grow by 30 percent through 2021. They are professionals in robotic fields and their job role is designing, testing and building the robots. The job openings for Robotic Engineers will be very high in private robot manufacturers, space and military programs.

### 4. DATA ANALYSTS

Data Analysts are experts who process, collect and performs the arithmetic studies of data and show it in manners which are both efficient and actionable. This is one of top it jobs in demand with a high salary package. The job openings for Data Analysts will be very high in consulting, finance, manufacturing, government, pharmaceuticals and education field.

### 5. FULL STACK ENGINEER

Full Stack Developers are web developers and computer programmers who are expert in both back end (server-side) and front end (the user-side) coding. Experts says that by 2021 the demand for Full Stack Engineers will increase by 30%. . The job openings for Full Stack Developer will be very high in digital marketing companies, financial service companies and software companies.

### 6. CLOUD ENGINEER

Cloud Engineers are IT experts who manage and handle all the technical assignments related with Cloud Computing. Their main responsibility is to manage, plan, design, and monitoring cloud systems of a company. The job openings for Cloud Engineer will be very high in IT companies who leverage and adopt softwares as an IaaS, SaaS and PaaS offerings

# CAREER GUIDANCE

## 8. BIG DATA ENGINEER

Organizations need individuals who can change big amounts of raw data into actionable material for decision-making, innovation and strategy-setting. The average salary for big data engineers is \$163,250. The Big data engineer is one of the highest paying it jobs in 2021.

## 9. INFORMATION SYSTEMS SECURITY MANAGER

An information security manager protects an organization's computers, networks and data against computer security breaches, viruses & hateful hacker attacks. There are massive jobs in IT for information system security managers with a high salary package.

## 10. SOFTWARE ENGINEER

Software Engineer create and design engineering specs for both software and applications and their mean national salary is \$125,750. This shows that in the next two years Software Engineers will be very much in demands.

## 11. CYBERSECURITY SPECIALIST

As the name suggests, Cyber security Specialists are security experts who are responsible for taking care of the entire system/network security structure of a corporation. With the increase in cybercrimes, the demand for Cybersecurity Specialists is also increasing. The job openings for Cyber security Specialist will be very high in BFSI and IT companies

## 12. MOBILE APPLICATIONS DEVELOPER

You guys can assume the demand of Mobile application developer just by looking at your tablets or Phone. These are the IT pros who develops apps for famous platforms including Android and iOS. With a great expertise in coding along with the mobile development and mobile frameworks languages. The demand of Mobile application developer in the IT industry is very high with an average salary is \$146,500 and that's why we considered it as best it jobs for freshers.

## 13. APPLICATIONS ARCHITECT

To become an Applications architect pro, one needs to have an outstanding planning skills and communication. Application architect is one of the highest paying IT jobs 2021 as every organization wants to hire them for improving apps or creating new apps. Application architects earns a mean salary of \$141,750. They are responsible for designing major features of apps.

### 13. Data architect

Data Architects translate the requirement of business into the oversee data storage and data base solutions. They are responsible for organizing the data. The Tech Learn considered data architect as the one of the top it jobs in India. These IT pros make complicated processes to make business strategies. An average salary of Application architect is \$141,250. Hence, this is called as one of the top IT jobs for freshers.

### 14. Database manager

Database managers are the technical experts responsible for helping and maintaining the organizations database environment. This is known as one of the Top IT jobs in India as every company needs database managers to meet their business goals. Big organizations demand database managers with expertise in managing big data with a starting salary of \$133,500.

# CAREER GUIDANCE

## 16. SENIOR WEB DEVELOPER

Another highest paying IT jobs for freshers is Senior web developer whose main duty is to collect business needs and make specifications for web-based apps. They need developing experience on Ruby and PHP. In addition to experience of front-end development. This most in demand IT job 2021 gives a good salary package of around \$123,000. A web developer makes web properties more attractive and consistent.

## 17. SITE RELIABILITY ENGINEER

For monitoring the performance of applications, firms hire Site reliability engineers with a good knowledge of code and applications. The role of engineers is one of the highest-paying IT jobs as they write coding just like other software developers. Basically, linking the gap between operations and development in production of applications. Site reliability engineers works with the tech support team for supporting defects or tickets. They earn a mean national salary of 122,000.

## 18. SYSTEMS ENGINEER

The Technical infrastructure such a system hardware and software are supported by System engineer. In case of failing a system, they reconfigure and debug that particular system. As per the survey, this is the best it jobs for freshers.

A system engineer earns an average salary of \$106,000. They must have good communication skills for translating technical information to the users.

# Dear Reader

Editorial Board welcomes  
articles for the issue of  
"THE BYTE", January 2021.  
Please send your articles  
at

[thebyte.cse.imsec@gmail.com](mailto:thebyte.cse.imsec@gmail.com)

Department Of Computer Science and  
Engineering



## IMS Engineering College

National Highway 24, Near Dasna,  
Adhyatmik Nagar, Ghaziabad,  
Uttar Pradesh