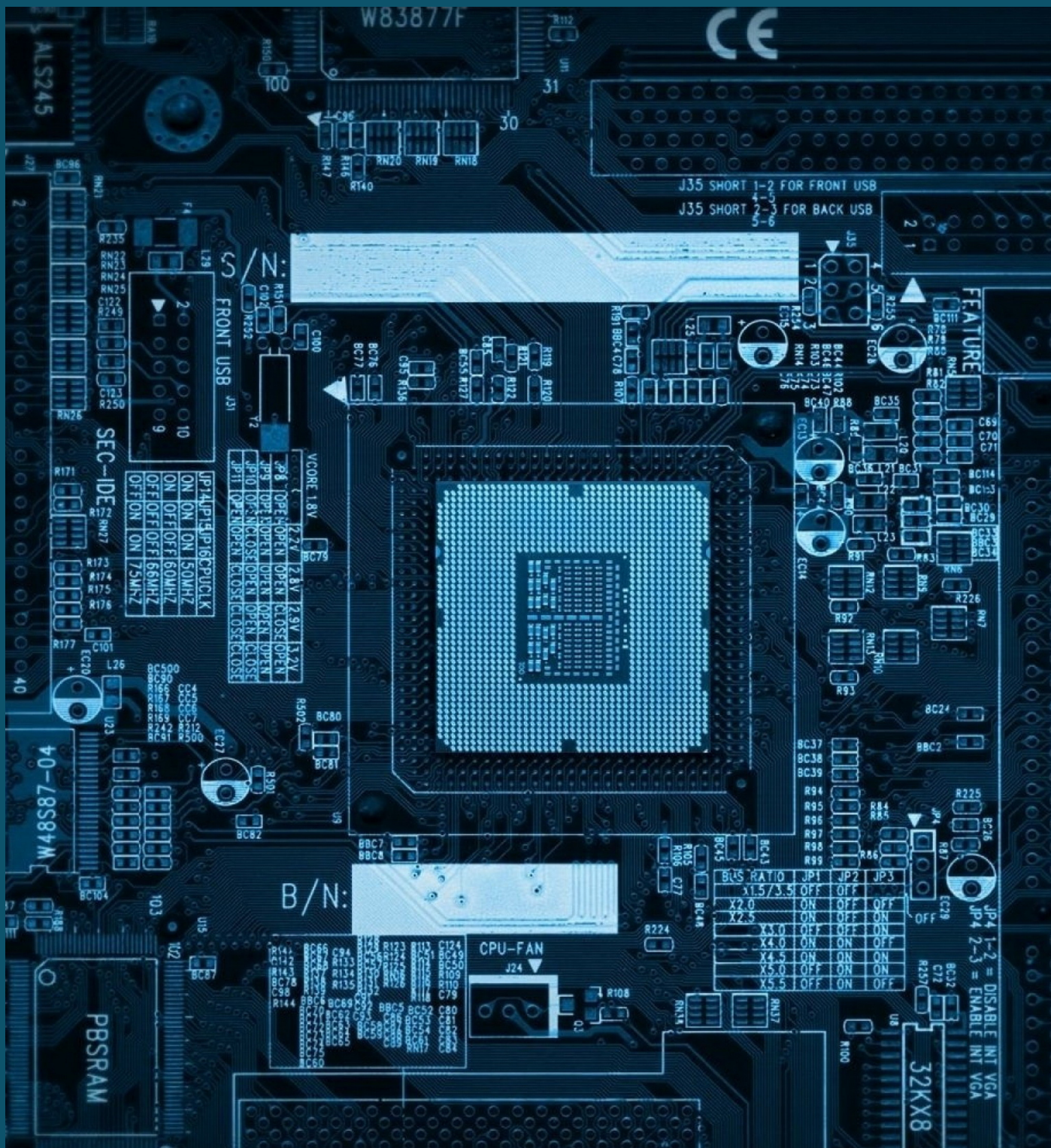
ICERYX

Department of Instrumentation and Control Engineering

SARANATHAN COLLEGE OF ENGINEERING

EDITORIAL JAN-APRL 2020



FOREWARD

Our department constantly motivates the students to concentrate more on live projects which gives a hands on work - experience to learn, explore and implement the theory understood in the classroom. Our department always focuses and caters to the needs of the students by creating an environment which facilitates career growth in related areas and encourages HR Summits and other entrepreneurship programs. The department will aid any positive effort made by the students in honing their skill sets.

FROM THE EDITORS DESK

Dear readers,

It's our pleasure to provide you with interesting articles. From this edition, the magazine of ICERYX is getting its new form. Hope you would like to read it this way. Many new measures have been taken to bring in more fervent readers for our magazine. From the Public Relations team, we express gratitude to everyone who supported us in this endeavor. Stay tuned on to update yourself with the deeds of our department as well as the outside world. Happy reading!

PR TEAM MEMBERS

1st YEARS

REGENA ARSHINI
MOHAMED YAHYA
BHARATH SAMUEL

2nd YEARS

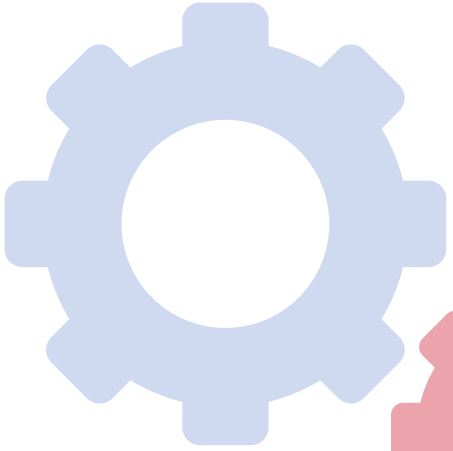
HARIHARAN.T
SHIVA SHANKAR.A
SURYA PRAKASH.D
PRANAV KUMAR.S
VASUNDRA.R
SWETHA.R

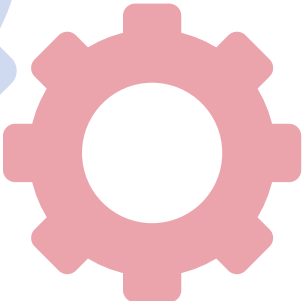
3rd YEARS

MAHALAKSHMI.S.P
SHARVIN SHAKESH.P
AKASH SAMI. R
SURYA.S

4th YEARS

R.MILAN PATEL,
B.IRFHANNA AMEER,





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ARTICLE

The fundamentals of security incident response—during a pandemic and beyond

A rapidly expanding remote workforce introduces new challenges when it comes to identifying your vulnerabilities and responding rapidly, but it doesn't change the fundamentals—identify, protect, detect, respond, and recover

Information security is a nonstop race between you and cybercriminals—and COVID-19 means more challenges for your organization and more opportunities for attackers. We spoke with cybersecurity experts about the challenges a newly remote workforce creates for organizations, how to respond to a cyberthreat, and how the threats themselves are changing.

The ongoing COVID-19 pandemic makes it more difficult to respond to a threat in progress. Being proactive is crucial, and the best time to update your strategy to reflect a shelter-in-place workforce is the same for every business, large or small: yesterday.

What's at stake?

Breaches come in different sizes and scales. Ransomware can keep you from resources and data, but the game plan is very different depending on what's compromised—and what that infected point has touched.

The solution to a workstation encrypted by a ransomware attack can be straightforward: rebuild the machine, which means downtime but not much else. However, if a data center or critical servers are compromised, the results could be catastrophic. For many companies, the potential loss is so great that sending hundreds of thousands of dollars in cryptocurrency to cybercriminals makes sense—even when paying the ransom is just the start of your headache.

"Even if you can find a way to pay, can afford to pay, and have a trustworthy enough criminal ... it still doesn't mean you're going to survive the attack," says Drew Simonis, deputy chief information security officer at HPE. Even if you pay a ransom, repairing the damage from a ransomware attack with security keys provided by a criminal can still mean months of downtime. How much lost productivity can your organization survive? "For a large company, it may be sustainable," says Simonis. "For a small company? That could put them out of business."

ARTICLE

The five pillars of cybersecurity

Obviously, the kinds of attacks you face and the resources at your disposal depend on the size of your organization. But the crucial actions you must take are drawn from the National Institute of Standards and Technology's (NIST) cybersecurity framework, and they are the same for businesses big and small: identify, protect, detect, respond, and recover.

It's a step-by-step process for assessing how vulnerable your system is, doing everything you can to remove vulnerabilities, quickly triaging the damage when a breach does occur, getting up and running again, and—most important—eradicating those weak links for the future.Not all organizations are created equal.

"A big company has all those resources in-house; they'll have the investigators, the forensic capability, the ability to develop a plan based on the breach and put that plan into action," says Simonis. Response plans differ depending on size and budget, and many of the challenges that small and midsize businesses face are more daunting than ever due to the ongoing pandemic.

The COVID factor

A growing remote workforce makes every step of response harder. The COVID-19 pandemic hasn't changed the fundamentals, but it has created new opportunities for cybercriminals: an uptick in content-oriented attacks that target the people in your organization—especially with emotional pleas. In April, the World Health Organization reported dealing with five times more cyberattacks than usual.

"Security teams have to learn to sift through what they didn't have to sift through before," says J.J. Thompson, senior director of managed threat response at Sophos.

Google's Threat Analysis Group warns that phishing attacks directed at the general public are masquerading as government services. "In a post-pandemic world, it's [still] going to be email and communication boards, social engineering attacks ... [but] they're going to have a much better uptake rate." COVID-19-related attacks like phishing attempts disguised as COVID test results are particularly dangerous.

"We all have a more porous social engineering filter than we had before," the group says.

ARTICLE

Responding and recovering

According to Simonis, just about everyone has a plan—but being able to put it into play is another story entirely. "People don't drill their plans. They don't practice their plans in a serious kind of way," he says. "[What is] more common than not having a plan [is] having a plan that is very dusty and doesn't actually work."

Simon Leech, senior adviser for security and risk management at HPE Pointnext Services, adds that when it comes to incident response—whether you've turned to a third party to help develop it or you're putting it in place yourself — the small details can make all the difference, right down to knowing exactly who to call at 2 a.m. with bad news.

Properly identifying what led to a breach, and making sure the hole is plugged, is crucial. "If you don't have a process in place to make sure you've contained the infection before you start cleaning things up and getting them back on the network, you're just going to be playing Whac-A-Mole, chasing down servers that keep getting reinfected," says Leech.

Knowing what to do when your plan is tested—and knowing what to do when your plan fails—is just as important as having one in the first place, Simonis says, citing boxer Mike Tyson's famous quote, "Everyone has a plan until you get punched in the mouth."

Security incident response: Lessons for leaders

- Making a plan is just the first part. Putting it to the test with drills and tabletop exercises is a top priority. When you uncover capability gaps, fill them with third-party expertise.

- Don't rely on backups—or the means to pay out in the event of a ransomware attack. For smaller businesses, these attacks can be fatal.

- Stick to the fundamentals.

Can artificial intelligence transform higher education?

Many have argued that the development of artificial intelligence has more potential to change higher education than any other technological advance. For instance, Klutka et al. (2018) has listed the following goals for AI in higher education:

- Increase outcomes
- Increase access
- Increase retention
- Lower cost
- Decrease time to completion

However, these are aspirational goals. What is the reality, at least as we enter the 2020s? The purpose of this special edition, as expressed in the journal's call for papers, is to examine the potential and actual impact of artificial intelligence (AI) on teaching and learning in higher education.

AI and HE: the gap between expectations and reality.

The Potential

As an emerging field of expertise, educational AI has the potential to transform our practices, and the experiences of our students. As Om Malik wrote,Footnote1 the expansion of more sophisticated technologies as well as more robust algorithms free not only the imagination of some but also offer new promises such as the possibility to maintain more productive interactions with much less effort at almost no cost.

When talking of AI or any technology applied to education, its application can be at different levels and in the particular case of higher education, proposals have been directed towards at least two levels: strategic or institutional applications; and direct teaching and learning.

Strategic or institutional applications of AI: learning analytics

Technologically speaking, this application of AI deals with big data, statistics and machine learning; from the point of view of education, most such applications tackle the problems of student selection, dropout and group behaviour tendencies, and analyse such data as a means of predicting and eventually redirecting strategies for future students.

Many research papers are available in this area, but most of this research has been done by computer scientists (but using real educational institutions data) and have not yet been fully implemented within institutions. It is likely that this area will grow in importance in higher education institutions in the coming decades, once institutions improve their data collection and implement policies on how to use such data. However, this area of application is not the focus of this specific edition.

Teaching and learning applications of AI

A second level is concerned directly with the teaching and learning process. To what extent can AI facilitate or even manage the process of teaching and learning itself? To date this area has consisted mainly of AI assistants such as chatbots as well as techniques for personalizing and adapting learning to particular characteristics or needs of groups or individuals.

The Reality

Artificial intelligence is in widespread use in some areas of society. In its direct impact on teaching and learning though, much has been promised, but as yet, little has been achieved, on the basis of both the Zawacki-Richter et al. literature review and the evidence of the submissions for this journal. We suggest there are several reasons for this inertia.

Tegmark (2017) argues that we have yet to attain the level of Artificial General Intelligence, where the processing capabilities of machines matches the cognitive capabilities of humans, while Bostrum (2017) suggests that we have endured an 'AI Winter' where AI proponents have suffered loss of credibility.

What needs to be done to make AI more relevant to teaching and learning in higher education?

The need for multidisciplinary research

In most cases, the research produced by experts in higher education has not been necessarily multidisciplinary. Although in the last 30 years there is a growing number of multidisciplinary research centres, this has not defined traditional research in higher education during, or prior to, the 20 century. What we observe in this special issue is not an exception.Interestingly, when exploring how AI can permeate the walls of higher education, this seems to be a question mainly explored by computer scientists, data experts and informatics.

Research is needed to better understand the (unintended) consequences and opportunities.

'Trust but verify.' This phrase was made famous by Ronald Reagan in December 1987 after the signing of the INF Treaty with Mikhail Gorbachev. Although the horizon of AI in HE is still in an emerging stage, it is increasingly important to take actions not to ignore, as has already happened in different governments and also health sectors, the unintended consequences of the growing protagonists that black boxed AI systems can generate.

The more people rely on AI systems to learn, upskill, or verify their knowledge or skills, the more important it will be to remain open but vigilant. As already explained, while this work-in-progress will require multi-disciplinary expertise, research is also required so we might better understand how AI technology can help reduce existing and future inequities.

Conclusion

The key question then is whether technology should aim to replace teachers and instructors through automation, or whether technology should be used to empower not only teachers but also learners. Above all, who should control AI in education: educators, students, computer scientists, or large corporations? These are indeed existential questions if AI does become immensely successful in reducing the costs of teaching and learning: but at what cost to us as humans? Fortunately AI is not yet in a position to provide such a threat, but this will not always be the case. The tsunami is coming.

STUDENT 'S CORNER

Name : G.DHARSINI

Event : Bio-Pictionary(Quiz)
Prize : Third
Place : K.Ramakrishnan college of engineering
Date : 24/02/2020

I learnt more from this competition.Thank you for the opportunity. Great experience, happy to have this opportunity of learning.Thank you for setting up this initiative.

Name : A.SHARLENE

Event : Extempore , Artistic-O-fest(drawing)
Prize : Second , Third
Place : K.Ramakrishnan College of Engineering
Date : 24/02/2020

This competition gave me a huge opportunity to learn more. It was a wonderful experience participating in the events conducted representing our college. The staffs made us so much comfortable to prepare for the events which made us achieve these awards. Thankyou to the department and the management for this initiative.

Name : MOHAN RAJ.B

Event : CONNECTIONS
Prize : Third Prize
Place : K.Ramakrishna college of engineering
Date : 24/02/2020

I learn more from this competition.Thank you for the opportunity. Great experience, happy to have this opportunity of learning.Thank you for setting up this initiative.

NAME: KANNAPPAN.S

Event - CONNECTIONS ,AUCTION
Prize - 3rd prize (Both)
Place -K.Ramakrishna college of engineering
Date - 24/02/2020

It was my first experience about symposium its actually gone well.

STUDENT 'S CORNER

CERTIFICATION FOR THE COMPLETION OF PYTHON 3.4.3 TRAINING

This is to certify that students from Department of **Instrumentation And Control engineering** has successfully completed **PYTHON 3.4.3** test organized at **Saranathan college of Engineering** by **Mr.Vigneshwaran Shanmuganathan** with course material provided by the **Spoken Tutorial Project, IIT Bombay**, Passing an online exam, conducted remotely from IIT Bombay, is pre-requisite for completing this training.

Mr.Seetharaman Radhakrishnan from Saranathan college of Engineering invigilated this examination , This training is offered by the Spoken Tutorial Project, IIT Bombay.

SL.No	DATE	NAME	YEAR
1.	09-03-2020	Sabthami M	3rd Year ICE
2.	09-03-2020	Rahul J	3rd Year ICE
3.	09-03-2020	Ragavi S	3rd Year ICE
4.	09-03-2020	Lingtan N	3rd Year ICE
5.	09-03-2020	Krithika V	3rd Year ICE
6.	09-03-2020	Karthik K	3rd Year ICE
7.	09-03-2020	Arawinthan R	3rd Year ICE
8.	09-03-2020	Aarthi R	3rd Year ICE

STUDENT 'S CORNER

CERTIFICATION FOR THE COMPLETION OF JAVA TRAINING

This is to certify that students from Department of **Instrumentation And Control engineering** has successfully completed **JAVA** test organized at **Saranathan college of Engineering** by **Mr.Vigneshwaran Shanmuganathan** with course material provided by the **Spoken Tutorial Project, IIT Bombay**, Passing an online exam, conducted remotely from IIT Bombay, is pre-requisite for completing this training.

Mr.Seetharaman Radhakrishnan from Saranathan college of Engineering invigilated this examination , This training is offered by the Spoken Tutorial Project, IIT Bombay.

SL.No	DATE	NAME	YEAR
1.	04-03-2020	Sathish Kumar M	2nd Year ICE
2.	04-03-2020	Nithish Anand Surya Narayanan	2nd Year ICE
3.	04-03-2020	Akshaya Varshini Vishwanathan	2nd Year ICE
4.	04-03-2020	Hariharan Thangaraj	2nd Year ICE
5.	04-03-2020	Mohamed Thoufeeq Pitchaimohamed	2nd Year ICE

SPORTS AND ACHIEVEMENTS

DEPARTMENT MATCH-2020

Our ICE Champions

Basket Ball - Silver Medal :

1. A. Shiva Shankar (Captain)- 3rd Year
2. S. Abbas Abdul Salam -4th Year
3. G. Manoj Kumar -4th Year
4. S. Alan Roddick -4th Year
5. T.Hariharan -3rd Year

Kho Kho - Silver Medal :

1. G. Manoj Kumar (Captain) -4th Year
2. S. Rajesh kumar -4th Year
3. M. Krishna Kumar -4th Year
4. A. Naina Mohamed -4th Year
5. P.k. Raviendran -4th Year
6. B. Prabakaran -4th Year
7. J. Jeevan Raj -4th Year
8. R. Bharath Prabhu -4th Year
9. D.Benito Richardson -3rd Year
10. S.Pranav Sajesh -3rd Year
11. E.M.Niths Roshan -3rd Year
12. S.Nithish Anand -3rd Year

Chess - Gold Medal

1. Saran Kumar -4th Year

GOLD in Javelin, Discus Throw

1. S. ABBAS ABDUL SALAM -4th Year

Gold in 10K Bronze in 5k

1. G. MANOJ KUMAR -4th Year

APTITUDE

1. The expression $2222^{7777} + 7777^{2222}$ is divisible by
   a. 99 b. 101 c.13 d. any two of these

2. Around a square table chairs are arranged in a sequence starting from one corner, numbered as 1, 2, 3, … etc. The chair number 2 is opposite to chair number 14. So how many chairs are there in all?
   a. 10 b. 20 c. 14 d. can't be determined

3. In how many ways 2310 be expressed as a product of 3 factors?
   a. 41 b. 23 c. 56 d. 46

4. The remainder when $(888!)^{9999}$ is divided by 77?
   a. 1 b. 15 c. 0 d. can't be determined

5. We publish a monthly magazine of 84 pages. Once I found that in a magazine 4 pages were missing. One out of them was page number 29 it is known that the page number of the last page of the magazine is 84, (including the cover pages). The numbers printed on the missing pages were:
   a. 29, 52, 53 c. 30, 55, 56
   b. 28, 52, 53 d. can't be determined

6. In a survey it is found that ITC sells the cigarettes of Rs.15990 per day. If the cost of a pack is not less than Rs.100 then what can be the price of each pack which it sells per day is?
   a. 150 b. 420 c. 78 d. 205

7. For which of the following 'n' is the number $2^{74} + 2^{2058} + 2^{2n}$ a perfect square?
   a. 2012 b. 2100 c. 1150 d. 2020

8. What is the highest power of 7 which can divide 5000! Without leaving a remainder?
   a. 4998 b. 714 c. 832 d. 816

9. What is the remainder obtained when 1! + 2! + 3! + ….. + 77! Is divided by 7?
   a. 0 b. 5 c. 4 d. can't be determined

10. A number when divided by 3, 4, 5, 6, 7 leaves the remainder 2, 3, 4, 5 and 6 respectively. Find the largest 5 digit number?
    a. 99940 c. 99989
    b. 99959 d. 99912

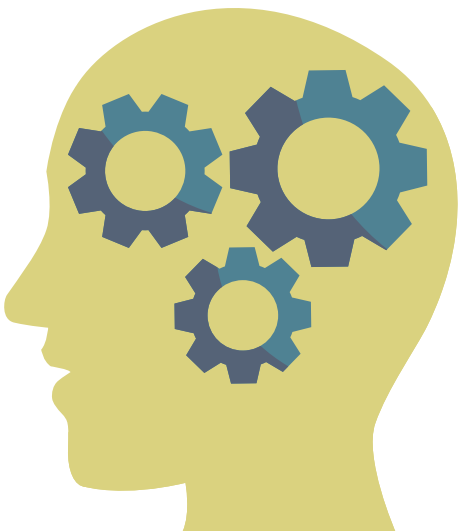
11. A motor boat takes 2 hours to travel a distance of 9 km downstream and it takes 6 hours to travel to the same distance against the current. The speed of the boat in still water and that of the current (in km/hr) respectively are:
    a. 6, 5 b. 3, 1.5 c. 8, 5 d. 9, 3

12. A boat sails 15 km of a river towards upstream in 5 hours. How long will it take to cover the same distance downstream, if the speed of current is one-fourth the speed of the boat in still water?
    a. 1.8 h b. 3 h c. 4 h d. 5 h

13. A man can row 9 km/hr in still water. It takes him twice as long as to row up as to row down. Find the rate of stream of the river?
    a. 2 b. 2.5 c. 3 d . 3.5

14. A can give B a 200 m start up and C a 300 m start up in a race of 1 km. How many metres start up can B give to C in a 1 km race?
    a. 100m b. 125m c. 150m d. 180m

15. The ratio of time taken to run a certain distance by Pythagorus and Hawkins is 4 : 3 and thus Hawkins wins the race by 360 m. What is the distance of race course?
    a. 1400 m c. 1440 m
    b. 1500 m d. 1550 m



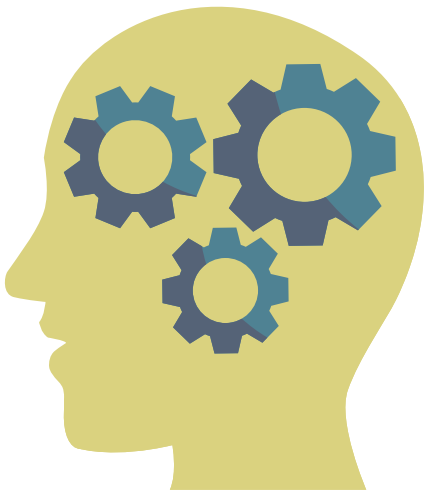
VERBAL APTITUDE

SYNONYMNS

1. INFURIATE
   a. burn
   b. disgrace
   c. threaten
   d. enrage
2. PROSPECTIVE
   a. potential
   b. prosperous
   c. perplexed
   d. possible
3. LOUSY
   a. unbearable
   b. unpleasant
   c. awful
   d. stinking
4. ACCENTUATED
   a. exhibited
   b. devalued
   c. mitigated
   d. sharpened
5. PREDOMINANTLY
   a. emphatically
   b. forcefully
   c. mostly
   d. profoundly
6. SUCCESSIVE
   a. rapid
   b. victorious
   c. beneficent
   d. consecutive
7. RAVAGE
   a. destroy
   b. break
   c. demolish
   d. abolish
8. SUPERSTITIOUS
   a. pious
   b. traditional
   c. irrational
   d. sacred
9. MENTOR
   a. guide
   b. genius
   c. stylist
   d. philosopher
10. GARNISH
    a. paint
    b. genius
    c. stylist
    d. philosopher

ANTONYMNS

1. ASCETICISM
   a. comfort
   b. luxury
   c. anti-Semitism
   d. humility
2. ENDURING
   a. fleeting
   b. painful
   c. permanent
   d. long lasting
3. DISSOLUTION
   a. retribution
   b. establishment
   c. persuasion
   d. compliance
4. PROGRESSIVE
   a. repressive
   b. retrogressive
   c. repulsive
   d. aggressive
5. UNNERVED
   a. confident
   b. nervous
   c. hopeful
   d. anxious
6. EXODUS
   a. influx
   b. home-coming
   c. return
   d. restoration
7. INQUISITIVE
   a. insincere
   b. indifferent
   c. insensitive
   d. insulting
8. CANDID
   a. outspoken
   b. frank
   c. devious
   d. disguised
9. NADIR
   a. modernity
   b. zenith
   c. liberty
   d. progress
10. CULPABLE
    a. defendable
    b. blameless
    c. careless
    d. irresponsible



DID YOU KNOW ?

1.The first alarm clock was designed for one person and could only go off at 4am – when they had to get up and get ready for work. An adjustable alarm clock was not created for another 60 years.

2.In 1999, PayPal, with its original business model, was voted top ten worst business ideas. As of 2015, they are a $9.24 billion dollar business.

3.The first ever domain to be registered, symbolics.com, is still in existence today 31 years and 275 million domain names later.

4.The computers used in the Apollo 11 trip to the moon had less processing power than a modern day cell phone.

5.An ecofriendly car that can act as a backup power generator for your house in the event of a blackout? That's the futuristic Toyota FCV.

6.The Firefox logo isn't a fox ,It's actually a red panda.

7.There are approx. 3.5 billion Google Searches per day.
7.2 percent of this traffic comes from people searching the term 'Google'.

8.Google's First Tweet was in binary.Google's first tweet was in 2009, and it was gibberish to most. Translated from binary to English, it reads, "I'm feeling lucky".

9.Android holds 87% of the OS market share.In 2019, The Android smartphone operating system accounts for 87% of the global market share, compared to Apple iOS which holds 13%.

10.The QWERTY keyboard was designed to slow you down. When typewriters were introduced, typing too quickly would jam the keys. To prevent this from happening, QWERTY was introduced which placed common alphabets at a distance from each other and slowed typists down.

ART AND PHOTOGRAPHY

1

ART BY

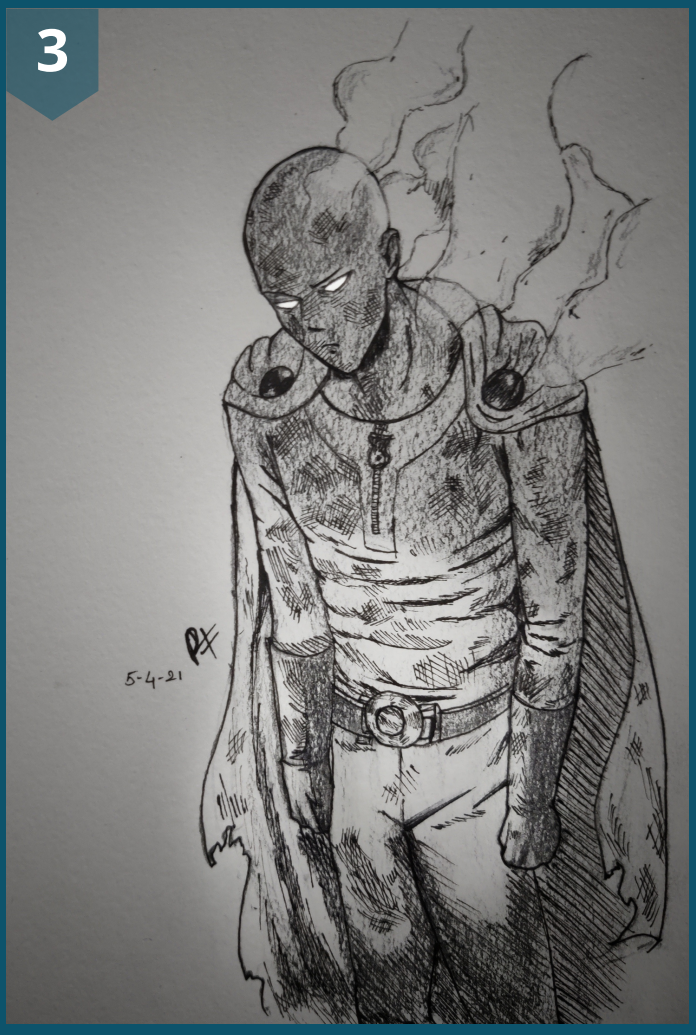
1.R.G. HARIHARAN- IVth YEAR

2.R.G. HARIHARAN- IVth YEAR

3.R.G. HARIHARAN- IVth YEAR

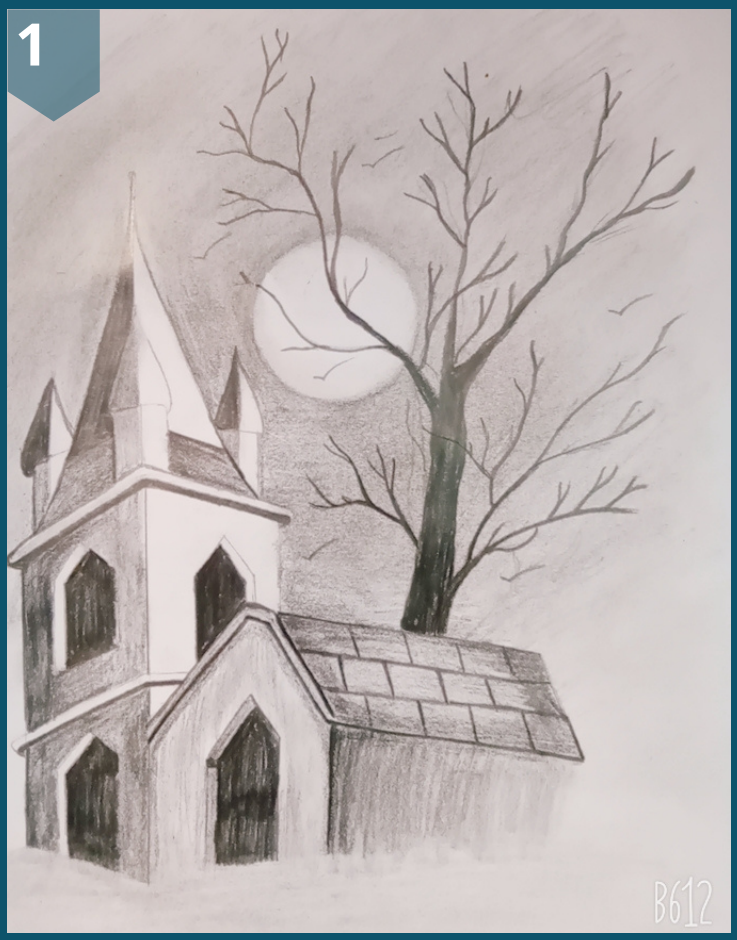
2

3



ART AND PHOTOGRAPHY

1



2

ART BY

1.R.SWETHA - IIIrd YEAR

2.R.SWETHA - IIIrd YEAR

PHOTOGRAPHY BY

3.D.SURYA PRAKASH - IIIrd YEAR

3