

College Name with Address
URUMU DHANALAKSHMI COLLEGE
PAPPAKURICHI KATTUR, TIRUCHIRAPPALLI
TAMILNADU 620019

Report

- 1. Event Title** : **Webinar on “CSIR-NET MATHEMATICAL SCIENCES”**
- 2. Category** : **Academic - Science**
- 3. Department** : **Mathematics**
- 4. Date** : **27.5.2020 From 11.00am To 12.00 Noon**
- 5. No. of Participants** : **746**
- 6. No. of Resource Persons** : **One**

Report Description -

Webinar on Mathematics was conducted by department of Mathematics with Dr.A.Mohan, Assistant Professor as the Resource Person. The Webinar was conducted on 27.5.2020. 746 participated in the webinar. After submission of feedback form E-certificates were sent.

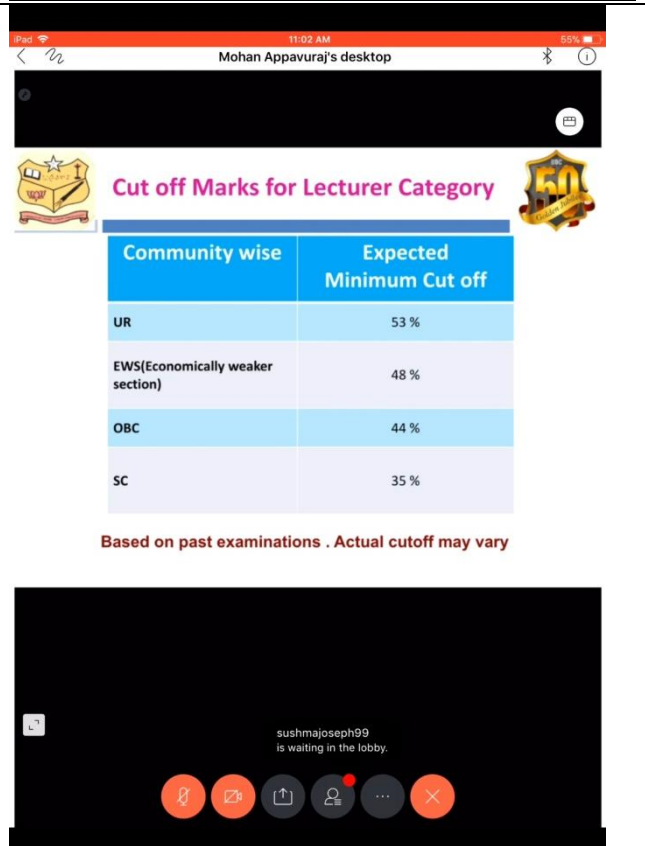
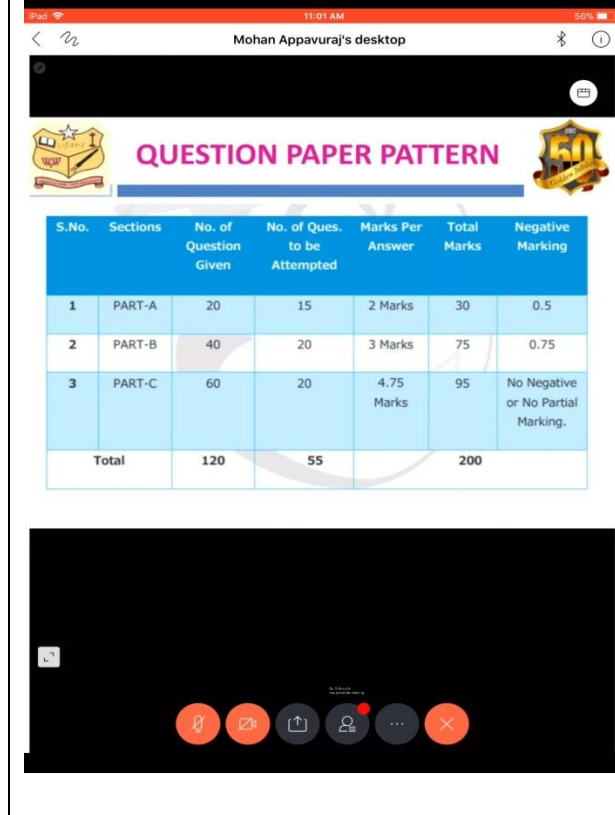
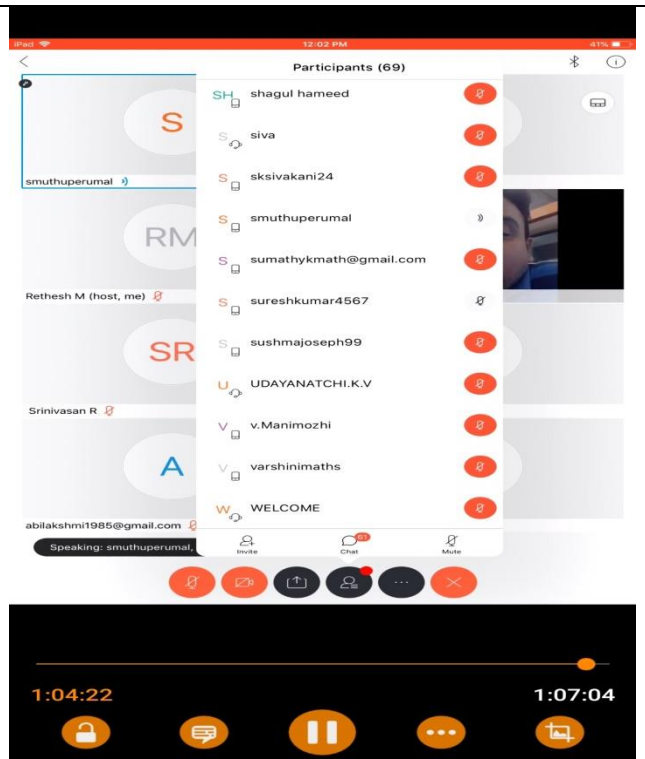
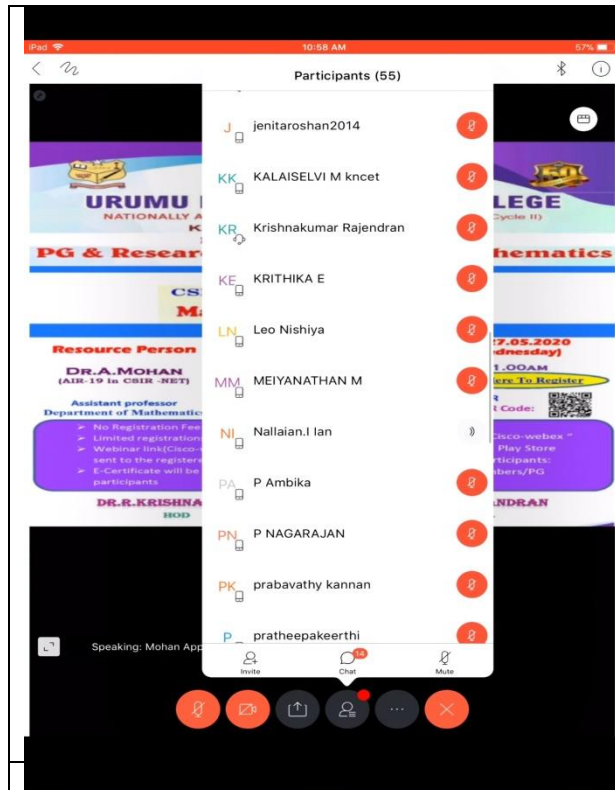
Report

The Invitation/Notification of webinar was released on 18.5.2020. It was given publicity through our collegewebsite, whatsapp groups and internet. The webinar was planned to be conducted live using the Cisco-Webex platform. The registration link was given and there was no registration fee for the webinar. The details such as Name, Department, Email-id and contact details were obtained. Total of 757 Assistant professors & Research Scholars registered for the webinar.

On 26.5.2020 the Meeting link was sent to the email ids of all registered participants. On 27.5.2020, around 10.45 am the meeting link was enabled and participants joined till 11.00 am. Exactly at 11.00 am the webinar started with the welcome Address of Dr.R.Krishnakumar, HOD. Following that the resource person Dr.A.Mohan started the session. After giving brief introduction about the nature & Syllabus of the CSIR-NET Examination , the strategy for objective type competitive examination was discussed. Then Mathematics problems from the previous year question papers were discussed . At the end of the session the participants gave live feedback and clarified the doubts.

After the Webinar session is over, the feedback form is sent to the 746 participants along with the link of the recorded video uploaded in youtube(<https://forms.gle/1dKdLfi4U8YjANQ56>). 484 participants gave the feedback through the link sent to their email-ids. E-Certificate was sent to all the participants who gave feedback.

Photos



11:07 AM 54%

Mohan Appavuraj's desktop

CSIR-NET PROBLEMS

★ Which of the following sets is uncountable?

A. $\left\{x \in \mathbb{R} \mid \log(x) = \frac{p}{q} \text{ for some } p, q \in \mathbb{N}\right\}$

B. $\{x \in \mathbb{R} \mid (\cos(x))^n + (\sin(x))^n = 1 \text{ for some } n \in \mathbb{N}\}$

C. $\left\{x \in \mathbb{R} \mid x = \log\left(\frac{p}{q}\right) \text{ for some } p, q \in \mathbb{N}\right\}$

D. $\left\{x \in \mathbb{R} \mid \cos(x) = \frac{p}{q} \text{ for some } p, q \in \mathbb{N}\right\}$

Speaking: Mohan Appavuraj

SOLUTION

The positive value of λ for which the equation $y''(x) + \lambda^2 y(x) = 0$, has non-trivial solution.

$\lambda = 2n - 1, n = 1, 2, 3, \dots$

$y(0) - y(\pi) = 0 \Rightarrow y'(0) - y'(\pi) = 0$

$D^2 + \lambda^2 = 0 \Rightarrow D = \pm \lambda i$

$y(x) = C_1 \cos \lambda x + C_2 \sin \lambda x$

Now, $y(0) = C_1$

$y(\pi) = C_1 \cos \lambda \pi + C_2 \sin \lambda \pi$

$y'(0) - y'(\pi) = C_1 \lambda \sin \lambda x + C_2 \lambda (1 - \cos \lambda x) = 0$

$\therefore y(x) = C_1 \cos \lambda x + C_2 \sin \lambda x$

$y'(x) = -C_1 \lambda \sin \lambda x + C_2 \lambda (1 - \cos \lambda \pi) - 1$

$y'(0) = C_2 \lambda$

$y'(\pi) = -C_1 \lambda \sin \lambda \pi + C_2 \lambda (1 - \cos \lambda \pi) = 0$

$\begin{vmatrix} 1 - \cos \lambda \pi & -\sin \lambda \pi \\ \lambda \sin \lambda \pi & \lambda(1 - \cos \lambda \pi) \end{vmatrix} = 0$

$= \lambda(1 - \cos \lambda \pi)^2 + \sin^2 \lambda \pi = 0$

$\Rightarrow \lambda[1 - \cos^2 \lambda \pi - 2 \cos \lambda \pi + 1] = 0$

$\Rightarrow \lambda[2 - 2 \cos \lambda \pi] = 0$

$\lambda \neq 0 \Rightarrow 2 - 2 \cos \lambda \pi = 0$

$\cos \lambda \pi = 1 \Rightarrow \lambda \pi = 2n\pi$

$\lambda = 2n$

Hence, option (B) is correct.

Speaking: Mohan Appavuraj

11:11 AM 53%

Mohan Appavuraj's desktop

SOLUTION

When $n = \text{even}$

$$b_n = 1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \dots + \frac{1}{n}$$

If, $n \rightarrow \infty$

$$b_n = 1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \dots - \frac{1}{n} - \frac{1}{2}$$

$\log_2 - \frac{1}{2} = 0.693 - 0.5 = 193$

$0.693 > 0.5$

Therefore, options (A) and (D) are not correct.

Hence, $a_n = (-1)^n \left(\frac{1}{2} - \frac{1}{n}\right)$

Given, $b_n = \sum_{k=1}^n a_k \forall n \in \mathbb{N}$

Hence, option (B) is correct.

Speaking: Mohan Appavuraj

11:46 AM 44%

Mohan Appavuraj's desktop

SOLUTION

Each question can be answered in 4 different ways.

$\therefore 30$ questions in 4^{30} ways

$n(S) = 4 \times 4 \times 4 \times 4$

$n(E) = 4^3 \times 1 \times 1$

$\therefore P(E) = \frac{1}{4^3 \times 4^3} = \frac{1}{4^6}$

Option (D) is correct

Speaking: Mohan Appavuraj

DELL has left the meeting.

Invitation/Brochure

URUMU DHANALAKSHMI COLLEGE
NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC (Cycle II)
Kattur, Tiruchirappalli – 620 019
Education for an Inspired Life
PG & Research Department of Mathematics

**Webinar on
CSIR -NET /SET Examination
Mathematical Sciences**

@ Cisco Webex meetings

Resource Person
DR.A.MOHAN
(AIR-19 in CSIR -NET)
Assistant professor
Department of Mathematics

**On 27.05.2020
(Wednesday)
@ 11.00AM**
[Click Here To Register](#)

OR
Scan QR Code:

- > No Registration Fee
- > Limited registrations only
- > Webinar link(Cisco-webex meetings) will be sent to the registered email-ID on 26.05.2020
- > E-Certificate will be provided to all participants
- > Download "Cisco-webex " from Google Play Store
- > Expected participants: Faculty Members/PG

DR.R.KRISHNAKUMAR HOD
DR.E.R.RAVICHANDRAN PRINCIPAL

For details: 9894618086

Be Safe & Keep Others Safe *Let us Win the War against COVID*

Certificate Copy

URUMU DHANALAKSHMI COLLEGE
Kattur, Trichy-19
(NATIONALLY RE-ACCREDITED WITH "A" GRADE BY NAAC)
PG & RESEARCH DEPARTMENT OF MATHEMATICS

Webinar on CSIR-NET EXAMINATION

This is to certify that **Mr. RAMNARAYAN KAHAR** RESEARCH SCHOLAR
of THE M S UNIVERSITY OF BARODA
has participated in the Webinar on CSIRNET / SET examination in
Mathematical Sciences on 27.05.2020 organised by PG & Research
Department of Mathematics Urumu Dhanalakshmi College, Tiruchirappalli.

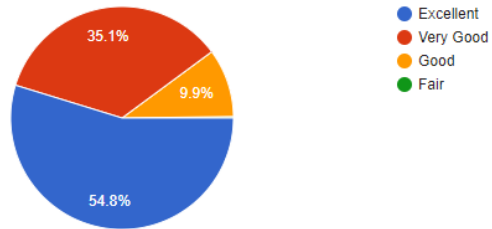
This is an e-Certificate and hence does not require signature

Dr.A.MOHAN RESOURCE PERSON
Dr.R.KRISHNAKUMAR HOD
Dr.E.R.RAVICHANDRAN PRINCIPAL

Feedback

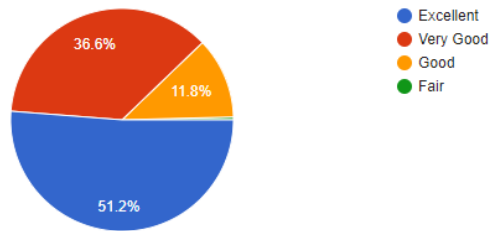
Video Quality :

484 responses



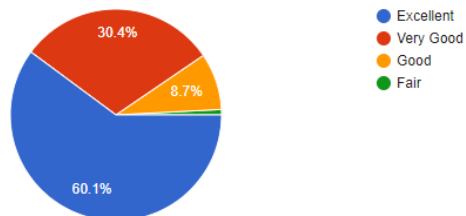
Audio Quality :

484 responses



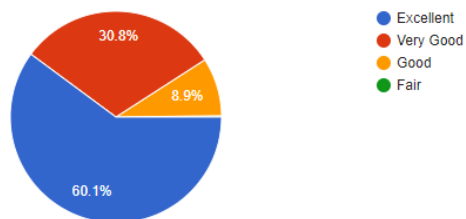
Content :

484 responses



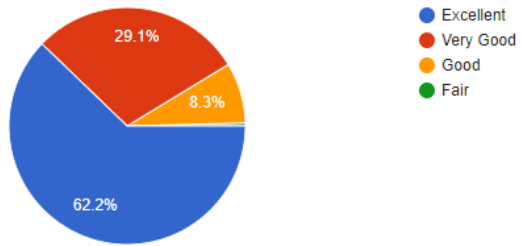
Presentation :

484 responses



Overall rating of the Webinar :

484 responses



Designation : (Select)

484 responses

