X

 (https://swayam.gov.in)   **(https://swayam.gov.in/nc_details/NPTEL)**

reviewer4@nptel.iitm.ac.in ∨

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Measure Theory (course)

Announcements (announcements)

About the Course (https://swayam.gov.in/nd1_noc20_ma02/preview)   Ask a Question (forum)

Progress (student/home)   Mentor (student/mentor)

Unit 2 - Sigma algebras, Measures and Integration

Course outline

How does an NPTEL online course work?

Sigma algebras, Measures and Integration

● Review of Riemann integration and introduction to sigma algebras (unit? unit=18&lesson=19)

○ Sigma algebras and measurability (unit? unit=18&lesson=20)

○ Measurable functions and approximation by simple functions (unit? unit=18&lesson=21)

○ Properties of countably additive

Processing math: 11%

Week 1 Assessment

**The due date for submitting this assignment has passed.   Due on 2020-02-12, 23:59 IST.
As per our records you have not submitted this assignment.**

1) Let $f: [0, 1] \to$ R be defined as follows: *1 point*

$$f(x) = \begin{cases} 0 & \text{if} \quad x \in Q \\ 1 & \text{otherwise} \end{cases}$$

Then which of the following are true ?

☐

f is not Riemann integrable

☐

f is Riemann integrable

☐

Limit of upper sums of f is one

☐

Limit of lower sums of f is zero

No, the answer is incorrect.
Score: 0

Accepted Answers:
f is not Riemann integrable
Limit of upper sums of f is one
Limit of lower sums of f is zero

2) Let $A_n, n = 1, 2, 3, \cdots$ be a sequence of subsets of a set X.   *1 point*
Define $\lim \sup$

☐

☐

☐

☐

No, the answer is incorrect.
Score: 0
Accepted Answers:

3) Let be a sequence of subsets of a set Define Then, which of the following are always true?   *1 point*

☐

☐

☐

☐

No, the answer is incorrect.
Score: 0
Accepted Answers:

4) Let be a set and let be proper distinct subsets of Consider the sequence of sets   *1 point*

Which of the following are correct?

☐

☐

☐

☐

No, the answer is incorrect.
Score: 0
Accepted Answers:

5) Which of the following are true?   *1 point*

☐

☐

☐

For

☐

No, the answer is incorrect.
Score: 0
Accepted Answers:

For

6) Which of the following are true ?   *1 point*

☐

☐

☐

☐

for any finite set

No, the answer is incorrect.
Score: 0

Processing math: 11%

theorem and
Lebesgue
differentiation
theorem

Weekly Feedback
forms

Video download

Accepted Answers:

for any finite set

7) Which of the following are true ?   *1 point*

☐

   is generated by open balls of rational radii

☐

   is generated by closed balls of rational radii

☐

   is generated by singletons

☐

   is generated by

No, the answer is incorrect.
Score: 0
Accepted Answers:
is generated by open balls of rational radii
is generated by closed balls of rational radii
is generated by

8) Which of the following are algebras?   *1 point*

☐

☐

☐

☐

No, the answer is incorrect.
Score: 0
Accepted Answers:

9) Which of the following definitions give a measure on   *1 point*

☐

☐

   if and otherwise

☐

   number of rationals in

☐

   number of rationals in

No, the answer is incorrect.
Score: 0
Accepted Answers:

if and otherwise
number of rationals in

10) Let and let Let be the powerset of and the counting measure on If . Then which of the   *1 point*
following are true?

☐

☐

☐

Processing math: 11%

No, the answer is incorrect.
Score: 0

Accepted Answers: