Assignment 8

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Due on 2021-03-17, 23:59 IST.

1) If there exists explicit $2^{O(\epsilon)}$-time PRG for some constant $\epsilon > 0$, then which of the following inclusions is known to be true?  

- $\text{BPP} = \text{P/poly}$
- $\text{P} = \text{NP}$
- $\text{BPP} = \text{PSPACE}$
- $\text{BPP} = \text{P}$

No, the answer is incorrect.
Score: 0
Accepted Answers:  
$\text{BPP} = \text{P}$

2) What is the probability $P$ such that a random function $f : \{1, 2, 3\} \rightarrow \{1, 2, 3, 4\}$ is one-to-one?  

- $3/4$
- $5/8$
- $3/8$
- $1/4$

No, the answer is incorrect.
Score: 0
Accepted Answers:  
$3/8$

3) For complexity classes $\text{P}$, $\text{BPP}$, $\text{PSPACE}$ and $\text{RP}$, which of the following inclusions is correct?  

- $\text{RP} \subseteq \text{P} \subseteq \text{BPP} \subseteq \text{PSPACE}$
- $\text{P} \subseteq \text{RP} \subseteq \text{BPP} \subseteq \text{PSPACE}$
- $\text{RP} \subseteq \text{P} \subseteq \text{PSPACE} \subseteq \text{BPP}$
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:  
$\text{P} \subseteq \text{RP} \subseteq \text{BPP} \subseteq \text{PSPACE}$

4) Standard counting argument shows that worst-case hardness of a random function $f$, for $f : \{0, 1\}^n \rightarrow \{0, 1\}^n$ is  

- $\text{exp}(n)$
- $\text{poly}(n)$
- $\text{log}(n)$
- No such lower bound is known

No, the answer is incorrect.
Score: 0
Accepted Answers:  
$\text{exp}(n)$