

**Discussion Questions for *Black, Brown and Bruised: How Racialized STEM Education Stifles Innovation*
Ebony O. McGee (Cambridge: Harvard Education Press, 2020)**

Introduction

Name several challenging experiences for underrepresented, racially minoritized (URM) students in STEM and that cause “outsize stress” for them. (1–2)

Identify the key questions McGee asks and answers in her book. Then state in your own words what McGee intends to explore in this book. (3)

Identify at least three statistics that show how the health outcomes for Black people lag behind those of the white population. (14–17)

Chapter One

What four forces does McGee say drive the “need to increase and diversify” the STEM workforce at colleges and universities? (20)

What percentage of science and engineering students are white and Asian men? What percentage are white and Asian men or women? (21)

McGee states that “the diversity of problem solvers matters more than their individual ability.” Why is this the case? What does diversity bring to the table that makes more diverse teams better problem solvers? (21)

What traits characterize the “pedagogy of solidarity?” How does this pedagogy differ from the Eurocentric paradigm? (22–23)

Describe the “pipeline” image and explain how it is flawed. (24–25)

Define the following terms and why they’re significant for diversifying STEM (28–29):

- Pan-Africanism
- Community service learning
- LatCrit

What is a “phenomenological approach” to research and what is the goal of this method? (30)

Chapter Two

Read the statistics on URM participation in STEM. Choose one statistic that stands out to you and explain why. If this statistic were to improve in favor of people of color what would be the effect on these STEM communities? On society at large? (34–36)

What are the reasons, according to McGee, that URMs most commonly give for “leaving or loathing” their STEM fields or careers? (37–38)

What are some of the symptoms of “racial battle fatigue”? (38)

Explain why “color-blindness” is an inadequate response to racism. (39–43)

Define the terms “structural racism” and “institutional racism.” (42–43)

Explain how structural racism plays out in the funding of HBCUs vs. HWIs. (43–45)

Define the term “eugenics” and explain its continuing effect on higher education. (45–47)

What is the impact on Black faculty of the disproportionate service burden that they carry? Brainstorm several solutions to the service burden challenge. (48–51)

Chapter Three

Name at least three effects that stereotyping has on URM students. (55–56)

What are the negative effects of “racialized experiences” on Black computing and engineering students? (57)

Summarize the themes that McGee and colleagues discovered in their research on the experiences of Black computing and engineering students. (57)

Define “John Henryism” and its effects. (59–60)

Critique the concept of “imposter syndrome.” Why are URMs in STEM made to feel like imposters? Explain why “imposter syndrome” is an inadequate term for their experiences. (60)

Explain why McGee says that URM women in STEM are put in a “double bind.” What are their unique challenges? (61–63)

What strategies did URM computing and engineering students use to manage stereotypes? (63–66)

Briefly summarize your view on Rob and Tinesha’s narratives and how their experiences speak to and complicate the concept of a “STEM identity.” (66–74)

Chapter Four

Define the term “equity ethic.” What, according to McGee, are the roots of the equity ethic? (76–79)

McGee holds that URM students make choices based on their equity ethic. What examples of such choices does McGee provide? (79–82)

What is “fictive kinship”? Discuss its connection to the concept of the equity ethic. (82)

Define the terms “intrinsic motivator” and “extrinsic motivator.” Choose one intrinsic and one extrinsic motivator from the table on page 85 and then create a scenario where an imaginary student is motivated by both of these factors. (84–86)

What are McGee’s recommendations for attracting and retaining URMs in STEM? (86–93)

What does McGee say are the “special tribulations” of Black men in STEM? (89)

What “intersectional issues” do women of color in STEM face? (90–93)

Chapter Five

What efforts were made “decades ago” to bring more URMs into STEM fields? Why did these efforts fail? (95)

What steps does McGee recommend for creating a more “welcoming environment” for URMs in STEM? (97–98)

McGee posits that certain “pedagogical approaches” represent reforms in curriculum and methods of instruction. What are these approaches and how do they create a more inclusive STEM culture? (99)

What are McGee’s recommendations for curriculum reform? Define the term “culturally responsive teaching” and explain how it relates to McGee’s program for curriculum reform. (99–100)

Describe the three programs that, McGee says, “work for STEM students of color.” Why are these programs effective? (100–104)

Discuss the pros and cons of mentoring. Why is mentoring important and what caveats does McGee have about it? (105–112)

Look back over Chapter Five and write a brief essay (200–300 words) on the methods McGee recommends for broadening URM participation in STEM. Which method do you think will be most effective and why? (95–113)

Chapter Six

McGee insists that “the entirety of STEM higher education needs to be dismantled.” Imagine and describe dismantling and rebuilding STEM education. How would you rebuild STEM education to make it more equitable and inclusive? Who should lead this effort? What would you propose to change and how? Note that the answer isn’t entirely in the pages of the book. Be imaginative and creative. Propose a possible future for STEM education based on what you’ve read so far. (115)

What is “social suffering” and what does it mean for reforming STEM education? (118)

McGee cites Black scholars Carter G. Woodson, Robert P. Moses, and S.E. Anderson. Read something about each of these three scholars on the internet. Then, briefly, describe one takeaway McGee finds important from each of these scholars. (119–120)

Define the term “nativism.” Why is it a barrier for Latinx students? What particular disadvantages do Latinx students face? (120–122)

What do Indigenous cultures have to contribute to disrupting and rebuilding today’s Eurocentric STEM environment? (122–125)

McGee presents seven practical steps for increasing the inclusion of URMs in STEM. Note that these steps represent reforms, not the “dismantling” McGee described earlier (115). Summarize, in two or three sentences, each of the seven steps McGee proposes. (126–134)

McGee ends this chapter with three recommendations:

- For the STEM community
- For STEM departments
- For policy makers

Summarize in two or three sentences each of McGee’s recommendations. (135–136)

Afterword

What are the three “intersecting realms” that McGee says informed the research that developed into her book? (137)

McGee discusses the importance influence of her mother on her education. Characterize what McGee learned from her mother about mathematics and the impact her mother’s influence had on her early life. (137–139)

How did McGee choose the college she attended as an undergraduate? What influenced her decision? (140)

What did McGee learn from the weekend sessions of her fellow Jackie Robinson Foundation scholarship recipients? (140–142)

Describe the positive and negative aspects of 1) McGee’s experience at North Carolina A&T State University and 2) the subsequent internships she had while attending college. (142–144)

Describe McGee’s experience working for Silicon Valley giant Hewlett-Packard. (145–147)

What was the focus of McGee’s doctoral program? (147–150)

Define the term “Afrofuturism.” What does McGee say is “the power of Afrofuturism”? (150–153)

The style and tone of McGee’s Afterword differs from the rest of the book. Her language becomes less formal and more culturally-informed (“Brothas,” “Black folx,” “hella long lines”). Why does McGee change her tone and why did she put this personal story at the end of the book? Draw on what she says elsewhere in the book to make your case. Use your judgment to assess why the author might have made this choice and how this choice reflects on the content of the book. (137–153)